# Central Area Monitoring Program

*A Joint Program of:*
*CITY OF TORONTO*
*MUNICIPALITY OF METROPOLITAN TORONTO*
*TORONTO TRANSIT COMMISSION*

*September 1987*

*Prepared by Metropolitan Toronto Planning Department*

# CENTRAL AREA MONITORING PROGRAM

A Joint Program of:

City of Toronto

The Municipality of Metropolitan Toronto

Toronto Transit Commission

## FIRST ANNUAL REPORT

Prepared by:
Metropolitan Toronto Planning Department
September, 1987

## EXECUTIVE SUMMARY

This is the first of a series of annual reports to be produced as part of a joint program of the City of Toronto, Metropolitan Toronto and the Toronto Transit Commission, established to monitor both transportation and land use characteristics in the Central Area. The existing Metropolitan and City transportation and land use data collection programs are fundamental elements of the Central Area Monitoring Program; they are supplemented by additional surveys undertaken for the Program or for other studies in the Toronto Central Area. The City of Toronto 1986 Quinquennial Review of the Central Area Plan has provided valuable background data for this report. The Ministry of Transportation and Communications has provided subsidy funds for some elements of the Program, while GO Transit has contributed ridership data.

The main objective of this report is to document the current (1986) status of, and recent trends in, key indicators for the Central Area, including transportation system usage, office floor space and vacancy rates, employment and population. The longer term objectives of the Program are to assist in the identification of causal relationships between the monitored variables in order to better estimate the transportation impacts of proposed major office developments and to identify the need and timing for related transportation system improvements.

To facilitate comparison of the transportation and land use data, both are summarized by common areas enclosed by cordons as defined for the Metro Cordon Count Program. The Central Area itself is bounded by Bathurst Street on the west, the CP North Toronto rail line on the north, and Bayview Avenue on the east.

Analysis of employment data collected in the Metro Employment Survey since 1981 shows a general upward trend in full-time office employment in the Central Area since the recession of 1982, while

full-time employment has declined in other categories such as retail and manufacturing. Part-time employment, however, has grown in most categories since the data first became available in 1983. Total employment (full-time plus part-time) has shown a net increase in all categories except manufacturing. Total Central Area employment grew by 15,500 full-time and 17,000 part-time jobs between 1983 and 1986, mainly in the Yonge Street/University Avenue corridor between Front Street and Bloor Street. As a result of the loss of jobs in the 1982 recession, net growth in full-time employment from 1981 to 1986 was only 8,000; part-time data is not available for 1981. Part-time represents under 4% of total office employment, but is about 25% of service and 33% of retail employment in 1986.

Population as recorded by the Provincial assessors has also shown an upward trend in the Central Area, growing by close to 8,000 between 1981 and 1986, in contrast to declines in many other parts of Metropolitan Toronto. Substantial new housing has been constructed in areas such as the St. Lawrence community, the Central Waterfront and the Bay Street Corridor. According to the 1981 Census, 58% of the population of the Central Area were employed, and 68% of those held jobs in the Central Area. If it is assumed that the above percentages apply to the population increase, this implies that roughly 3,200 new Central Area jobs were taken by Central Area residents, thus reducing the growth in in-commuting that would otherwise occur.

The report summarizes office space characteristics in the Central Area based on various surveys undertaken by and for the City of Toronto. The annual rate of growth, rate of absorption, vacancy rate and rents for office space have varied considerably over recent years due to swings in the market and the economy, but an annual average of 125,000 square metres of new Central Area office space have been absorbed into the market since 1981, compared to 150,000 square metres per year from 1976 to 1981. Recent data indicates a healthy market for new office

space in the Central Area, as well as a relatively large supply in the construction, approval and proposal stages.

Major office developments in the construction or approval stages within the Central Area are summarized; these include Scotia Plaza, Waterpark Place, Eaton Centre Phase II, World Trade Centre and B.C.E. Place. A total of 308,000 square metres of office space was under construction at the beginning of 1987, and a further 914,000 square metres were in various phases of the approval process, while several large developments were still at the proposal stage.

Average floor space per worker ratios, which link the amount of floor space to the number of employees, and hence work trips, showed an increase from about 19 to 25 square metres per worker based on various surveys between 1960 and 1980; a further modest increase to 26 square metres was recorded between 1980 and 1985.

Vehicle and person counts from the Metro Cordon Count program between 1975 and 1986 are summarized by cordon. These one-day manual counts are subject to random variations due to weather, accidents, construction, counter accuracy, etc. The counts at the Central Area Cordon show 1981 as a peak year for both transit and total person volumes in the 7:00 to 9:00 a.m. and 4:00 to 6:00 p.m. peak periods (peak direction). Transit travel (excluding GO Rail) declined in 1983 and again in 1985; the 1986 counts indicate a recovery to the 1981 level in the a.m. peak period, but a further drop, to 8,300 below the 1981 level, in the p.m. peak period. The auto person travel peaked in 1979, falling by about 10% in 1981, then rising in 1983 and 1985; again, the 1986 counts show an increase to close to the 1979 level in the a.m. but a further decrease in the p.m. peak period. The 1987 counts, when available, should establish whether or not this is a temporary phenomenon.

On an all-day basis (7:00 a.m. to 7:00 p.m., both directions), total person trips have shown a steady increase from year to year, although there has been fluctuation in individual modes.

The 1986 counts for 7:00 to 9:00 a.m. indicate that 57% of person trips entering the Central Area were on transit, 34% in autos and 9% on GO Rail. Compared to 1981, auto and GO Rail percentages have increased slightly, while the transit percentage has dropped.

Auto vehicle counts show a similar pattern to auto persons; however, the growth in vehicles is compounded by a steady downward trend in average auto occupancy. Trucks and transit vehicles represent a fairly constant proportion of total vehicle traffic: about 11% in peak periods and 15% in the 12-hour period.

T.T.C. peak point, a.m. peak hour inbound subway volumes based on monthly counts show 1981 as a peak year on the Yonge subway south of Bloor station, with a volume in excess of the practical capacity of 33,600 passengers per hour. After declining in 1982 and 1983, the volume recovered by 1986 to 31,800 or 95% of capacity. Peak point volumes on the Bloor line, and on the Yonge line north of Bloor, were generally lower in 1986 than peak levels recorded between 1980 and 1982, and between 75% and 85% of capacity. The Spadina/University line showed fairly stable ridership; the 1986 volume was 73% of capacity south of Bloor Street, and 45% of capacity north of Bloor Street.

Surface transit ridership into the Central Area showed a decline between 1981 and 1985, with some recovery recorded in 1986. Surface transit serves less than 2% of total person trips to the Central Area.

GO Transit ridership into Union Station has shown a steady upward trend from 1981 to 1985, due in part to the addition of lines to Milton, Bradford and Stouffville; total ridership levelled off in 1986. The highest train frequency and heaviest ridership are on the Lakeshore West line.

The highest rate of growth has been on the Milton line, to which two trains are to be added in 1988.

Parking surveys show that spaces available to the public in the Downtown Core increased by 1,800 between 1980 and 1986, while in the area to the south, including the Central Waterfront, parking spaces increased by 5,000.

Transportation improvements currently under study which would improve access to the Central Area include the Gardiner Expressway widening and Front Street extension, Leslie Street extension and Bayview Avenue widening, expansion of GO Rail service and GO/T.T.C. fare and service integration. The T.T.C. has launched a study of means to reduce headways and relieve congestion on the Yonge subway line; in the shorter term, spare capacity is available on the University line, and surface transit contingency measures could be implemented at short notice should Yonge line overcrowding reach unacceptable levels. A study of pedestrian movements and future requirements in the Union Station area is in progress under the auspices of the Railway Lands Steering Group.

The report assesses the 1986 Program, and identifies some deficiencies and proposed improvements for future years. Additional data collection is proposed to facilitate analysis of through travel at the Central Area and inner cordons. More detailed consideration of road traffic flows, including calculation of capacity and level of service on individual facilities, is also proposed, along with identification of specific congestion points. More detailed analysis of cordon counts to identify peak spreading is recommended.

The 1987 C.A.M.P. report will include summaries of two recent surveys: the 1986 City of Toronto travel survey of Central Area residents, and a survey of part-time employees in the Central Area undertaken in conjunction with the 1987 Metro Employment Survey.

Finally, two major new sources of data that should be available in 1988 are the 1986 Census place-of-work Survey and the Transportation Tomorrow Survey. The Census data was last collected in 1981, and provides valuable information on home-to-work linkages, including the residential orientation of Central Area employees. The Transportation Tomorrow Survey is a comprehensive travel survey of 60,000 households across the Greater Toronto Area undertaken in Fall, 1986; it will provide detailed information on person travel by purpose, mode, time of day and orientation. This is the first survey of this magnitude since 1964.

## TABLE OF CONTENTS


| | | Page |
|---|---|---|
| | EXECUTIVE SUMMARY | i |
| | LIST OF EXHIBITS | viii |
| 1 | INTRODUCTION | |
| 1.1 | Background | 1 |
| 1.2 | Objectives of the Program | 6 |
| 1.3 | Purpose of Report | 6 |
| 1.4 | Study Area | 7 |
| 1.5 | Participants | 9 |
| 2 | SOURCES OF INFORMATION | |
| 2.1 | Metro Cordon Count Program | 11 |
| 2.2 | Other Transportation Counting Programs | 12 |
| 2.3 | Metro Employment Survey | 12 |
| 2.4 | Office Space Survey | 13 |
| 2.5 | Other Special Surveys | 14 |
| 2.6 | Census | 15 |
| 2.7 | Greater Toronto Area Travel Survey | 15 |
| 3 | FINDINGS | |
| 3.1 | Employment | 17 |
| 3.2 | Population | 25 |
| 3.3 | Office Conditions | 27 |
| 3.4 | Transportation System Usage | 33 |
| 3.5 | Development and Transportation Proposals for the Central Area | 56 |
| 4 | CONCLUSIONS | |
| 4.1 | General | 62 |
| 4.2 | Synopsis of Findings | 62 |
| 4.3 | Assessment of the 1986 Program | 64 |
| 4.4 | Proposed Improvements to the Program | 64 |
| 4.5 | Additional Data Sources for Future Reports | 65 |
| | BIBLIOGRAPHY | 67 |
| | APPENDIX | |
| | Land Use and Cordon Count Tables | |

## LIST OF EXHIBITS


| Exhibit | | Page |
|---|---|---|
| 1 | Cordons within Central Area | 8 |
| 2 | Planning District 1 and Central Area Cordon | 10 |
| 3 | Employment within Central Area Cordon | 16 |
| 4 | Employment within Downtown Core Cordon | 18 |
| 5 | Employment within Extended Core Cordon | 20 |
| 6 | Employment within Downtown Cordon | 22 |
| 7 | Change in Total Employment by Minor Planning District, P.D.1, 1983-1986 | 23 |
| 8 | Total Population by Four Cordons | 24 |
| 9 | The Toronto Region | 26 |
| 10 | Share of Office Space | 26 |
| 11 | Average Annual Rate of Growth | 28 |
| 12 | Average Annual Rate of Absorption | 28 |
| 13 | Relationship between Rental Rates and Vacancy Rates Central Core, 1976-1985 | 30 |
| 14 | Trends in Floor Space per Worker Ratios, 1960-1985 | 30 |
| 15 | Peak Period Vehicle Trips Crossing Central Area and Extended Core Cordons | 36 |
| 16 | Peak Period Person Trips Crossing Central Area and Extended Core Cordons | 37 |
| 17 | Peak Period Vehicle Trips Crossing Downtown and Downtown Core Cordons | 38 |
| 18 | Peak Period Person Trips Crossing Downtown and Downtown Core Cordons | 39 |
| 19 | Average Auto Occupancy at Cordons | 40 |

## LIST OF EXHIBITS (Continued)


| Exhibit | | Page |
|---|---|---|
| 20 | A.M. Peak Hour Subway Counts | 42 |
| 21 | Streetcar Ridership Trends | 44 |
| 22 | Transit Facilities Serving the Central Area | 46 |
| 23 | Major Road Facilities Serving the Central Area | 48 |
| 24 | Selected Volumes on Expressways | 50 |
| 25 | Existing GO Train Stations and Bus Routes | 52 |
| 26 | GO Train Passenger Arrivals at Union Station (7:00-9:00 a.m.) | 52 |
| 27 | A.M. Peak Hour and Peak Period GO Train Passenger Arrivals at Union, 1986 | 54 |
| 28 | Major Central Area Office Developments Under Construction and in Approval Stages as of January, 1987 | 58 |
| | APPENDIX | |
| A.1 | Employment by Type, Four Cordons | |
| A.2 | Vehicle Trips Crossing Central Area Cordon | |
| A.3 | Vehicle Trips Crossing Extended Core Cordon | |
| A.4 | Vehicle Trips Crossing Downtown Core Cordon | |
| A.5 | Vehicle Trips Crossing Downtown Cordon | |
| A.6 | Person Trips Crossing Central Area Cordon | |
| A.7 | Person Trips Crossing Extended Core Cordon | |
| A.8 | Person Trips Crossing Downtown Core Cordon | |
| A.9 | Person Trips Crossing Downtown Cordon | |

# 1. INTRODUCTION

## 1.1 Background

The Central Area of Toronto has long been the business and financial centre and the main employment concentration of the Toronto Region, which includes the Regional Municipalities of Durham, York, Peel and Halton, in addition to Metropolitan Toronto. Since the 1950's, the Toronto Region has experienced sustained growth in both population and employment, with a major part of the growth in the suburban (and formerly rural) areas of Metropolitan Toronto and the surrounding Regional Municipalities. Employment in the Central Area as a percentage of both Metro and Toronto Region employment has declined; however, it has continued to grow in absolute terms. Between 1950 and 1980 a number of major transportation facilities were implemented largely to serve the needs of increasing numbers of workers commuting to jobs in the Central Area. These include the Yonge-Spadina and Bloor-Danforth subway lines, the Gardiner Expressway, the Don Valley Parkway, and the GO Transit commuter rail system. Many of these facilities have become congested in peak periods, and are at the point where travel flows are at or close to capacity at various "bottleneck" locations. No substantive improvements have been made since 1980 to transportation facilities serving the Central Area, other than implementation of the Milton GO line and incremental improvements to service and train capacity on other GO rail lines.

In January, 1976, City of Toronto Council adopted a Central Area Plan, which sought to maintain the character of the City by controlling commercial development and redevelopment and by promoting residential and diversified mixed-use development in the Central Area. The Plan also supported the deconcentration of employment, and placed limits on the growth of office space in the Central Area consistent with the existing and projected capacity of the transportation system serving the Central Area. Particular aspects of the Plan, including indicators relating to the

office deconcentration policies, were to be reviewed every five years. The first such quinquennial review (QQR) was undertaken in 1981, and the second was completed in 1986.

The Metropolitan Official Plan for the Urban Structure, also in preparation in 1976 and adopted by Council in 1980, promoted the concept of a multi-centred urban structure for Metropolitan Toronto by encouraging employment development in suburban centres, and other locations adjacent to rapid transit stations, while recognizing that the Central Area would continue to be the major concentration of employment in the Toronto Region.

Neither Plan provided for new major road or rapid transit facilities into the Central Area; any increases in capacity would be achieved by service improvements on the subway and surface transit lines, by incremental expansion of the commuter rail system and by making necessary improvements to the efficiency of traffic and pedestrian flows in the Central Area, for example, by adjusting signal phasing or by instituting more one-way streets. Any new rapid transit facilities, or arterial road improvements requiring additional right-of-way, would require City and Metropolitan Official Plan amendments.

Between 1976 and 1981, the amount of office floor space in the Central Area continued to grow within the limits set by the Central Area Plan. The Spadina subway line opened in 1978 and diverted some travel away from the crowded Yonge line. However, in 1981, a surge in transit ridership was recorded at the Bloor/Yonge transfer station and on the peak Yonge subway link south of Bloor. Concern was expressed that if an upward ridership trend continued, boosted by the construction of committed and proposed office developments in the Downtown Core and the Railway Lands/Central Waterfront area, congestion on the subway trains and on the platforms and stairways at the Bloor/Yonge station could reach a level which would seriously degrade service and could

potentially result in danger to passengers. At the time, the T.T.C. had no committed rapid transit construction projects beyond completion of the Scarborough R.T. line.

This situation led to initiation of the Metro/T.T.C. "Accelerated" Rapid Transit Study (ARTS). The study, which was completed in 1982, analyzed various future rapid transit options and recommended approval in principle of a "relief" line from Union Station to the Danforth subway, to divert travel away from the Yonge line and the Bloor/Yonge interchange, as well as a Sheppard line from Yonge Street to the Scarborough City Centre. A joint staff report to the Metropolitan Economic Development and Planning Committee in June 1982, recommended a joint Metropolitan/City of Toronto/T.T.C. program to monitor employment growth and development proposals in the Central Area and to determine their effect on the transportation system.

While the above recommendation regarding monitoring was not included in the final recommendations on the ARTS study adopted by Metro Council in April 1983, it signalled the need for a comprehensive monitoring program in the Central Area.

The Metropolitan Planning Department also undertook the Central Waterfront Transportation Study to assess the transportation implications of proposed development in the Railway Lands/Waterfront area. A staff report to the Economic Development and Planning Committee in May, 1983, recommended a staged implementation plan which would provide for construction of office space consistent with the staging of the transportation improvements included in the Central Waterfront Transportation Plan.

Metropolitan Council has taken action on certain of the proposed improvements in the Central Waterfront Transportation Plan, including approval of the Harbourfront LRT line and initiation of environmental and/or feasibility studies of the Front Street Extension, Gardiner

Expressway widening and Spadina LRT, but the Plan itself has not been formally adopted by Council.

Metropolitan staff comments on the Railway Lands Part II Development concept were outlined in a letter in August 1984 from the Metropolitan Commissioner of Planning to the City of Toronto Commissioner of Planning and Development. One of the staff conclusions contained in this letter stated that, in order to ensure that office development in the Central Area would proceed only in concert with the capabilities of the transportation system, it would be necessary to establish a joint Metropolitan-City office development/transportation monitoring program.

This conclusion was ultimately contained in a report to the Economic Development and Planning Committee in September 1985, on the Part 2 Plan and Zoning By-law for the Railway Lands, which was adopted by Metropolitan Council on October 1, 1985.

Following ARTS, further analyses were undertaken of rapid transit options individually and in combination, leading to three detailed feasibility studies: the Sheppard/Finch Rapid Transit Corridor Study, the Downtown Rapid Transit (DRT) Study and the Eglinton West Rapid Transit Study. The final result of these studies was the report "Network 2011: A Rapid Transit Plan for Metropolitan Toronto", which was submitted to the Transportation and Economic Development and Planning Committees in May 1985, and referred by them to the Area Municipalities for comment. This report recommended the DRT line as second priority after construction of the first section of the Sheppard subway line between Yonge Street and Victoria Park Avenue.

The "concurrent actions" contained in the Executive Summary of the Network 2011 report refer to establishment of a comprehensive development and transportation monitoring program for the Central Area and provision of interim relief in the Central Area as necessary, by

implementing the Sherbourne Express Bus, the Yonge/Bloor Station improvements and the Spadina LRT. These were an integral part of the final Network 2011 strategy which was adopted by Metropolitan Council on June 24, 1986.

In the final Metropolitan staff report to the Economic Development and Planning Committee and the Transportation Committee on Network 2011 (dated May 29, 1986), it was recommended that the Toronto Transit Commission, in co-operation with Metropolitan and City of Toronto staff, be requested to monitor employment growth and transit usage in the Central Area of Toronto and to recommend implementation of appropriate surface transit improvements and subway operational and station improvements to relieve crowding on the Yonge and University Subway lines as required.

This recommendation was adopted by Metropolitan Council on June 24, 1986. The final report reaffirmed the Sheppard line as first priority, to support Metropolitan Plan objectives of encouraging development of suburban centres. No further priorities were defined; these were left open to review at five-year intervals. Metropolitan Council adopted the revised Network 2011 strategy and subsequently approved an Official Plan Amendment to designate the Sheppard and Eglinton West Rapid Transit lines, but not the Downtown Rapid Transit line.

Finally, following Council approval of the Planning Department's 1986 Budget Estimates (including funds for certain Central Area monitoring efforts), the Economic Development and Planning Committee on May 14, 1986, approved a staff report outlining the activities of the Central Area Monitoring Program.

The subway ridership levels experienced in 1981 have not been maintained in subsequent years. In summary, Metropolitan Council has concluded that a downtown relief line is not required in the immediate future, but.

that monitoring of transit ridership and vehicular traffic in conjunction with employment and residential growth should be undertaken, to assist in identifying short term operational improvements as well as to indicate when major improvements such as a relief line might become necessary.

## 1.2 Objectives of the Program

The objectives of the Program are:

(a) to document a number of key Central Area variables such as transportation system usage, travel characteristics, office floor space and vacancy rates, population, labour force and employment;

(b) to identify causal transportation relationships which will facilitate the estimation of travel generated by proposed future developments, and hence

(c) to identify the need and timing for additions or improvements to the transportation system required to accommodate the proposed developments.

## 1.3 Purpose of Report

This report, the first of an annual series, documents the situation in the Central Area as of 1986 with respect to existing development, employment levels and transportation system usage, the latter with emphasis on peak period travel. Time series data from previous years is presented where available.

The City of Toronto, as part of its 1986 Quinquennial Review of the Central Area, has produced an Overview Report and a series of Background Papers which include extensive background information, some of which has been extracted for this report.

This report addresses itself primarily to objective (a) above, and to a lesser extent to objective (b). It is intended that the factual, statistical information presented herein will assist each of the Metropolitan and City agencies involved in planning for the Central Area to address the third objective.

As the Program proceeds, subsequent reports will establish additional time series data which will enhance the planning agencies' ability to identify trends and to project transportation requirements into the future.

1.4 Study Area

The study area for the Central Area Monitoring Program is the area enclosed by the **Central Area Cordon.** This cordon was established by the City of Toronto for the monitoring of inbound and outbound vehicle and person flows in 1970, and was incorporated into the Metro Cordon Count Program in 1975. The area is bounded by Bathurst Street (east side) on the west, the C.P. Rail North Toronto Subdivision on the north, by the Moore Park Ravine and Bayview Extension on the east, and by the Keating Channel and waterfront on the south. It is assumed to include the Toronto Island residential community, which has ferry access to the foot of Yonge Street, but not the Island Airport.

The area defined for the City of Toronto Central Area Plan is somewhat different; it coincides with Metro Planning District 1, one of sixteen such districts within Metropolitan Toronto defined by the Metropolitan Planning Department. It includes additional, largely industrial, areas south of Queen Street to the east and west and excludes the South Rosedale residential area. This area will be referred to as **PD1.**

Other cordons have been defined within the Central Area, for which both count data and employment data are presented in this report. The **Downtown Core Cordon,** also originally defined by the City of Toronto, is bounded by University Avenue, Dundas Street, Jarvis Street and Front Street. The **Downtown Cordon** is an extension of this to the north as far

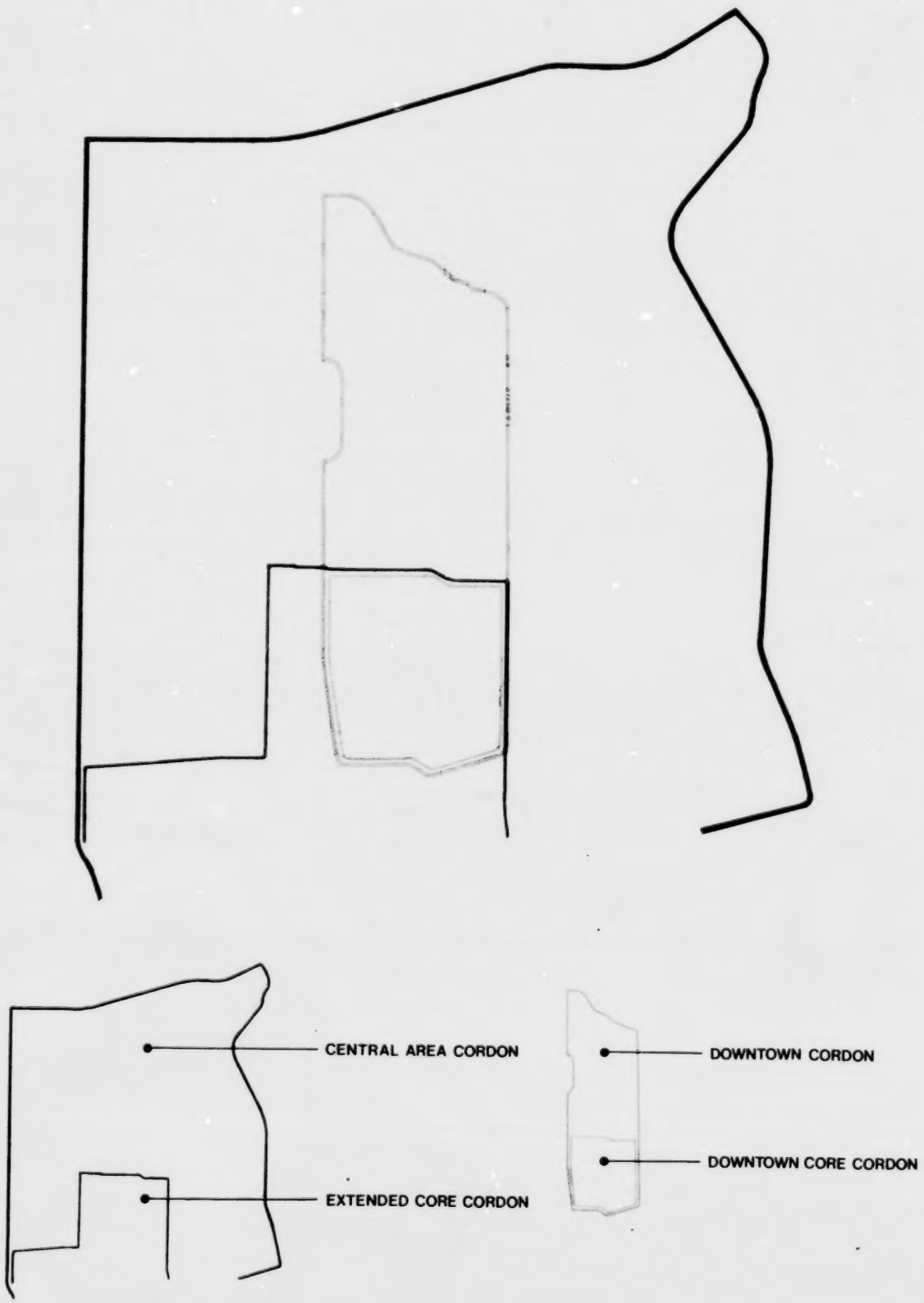



EXHIBIT 1 : CORDONS WITHIN THE CENTRAL AREA

as Davenport Road/Church Street and includes the Yonge Street corridor and the Bloor/Yonge/Bay development area. The **Extended Core Cordon** was defined in 1985 specifically for the Central Area Monitoring Program, to facilitate monitoring of travel related to committed and projected new development south of Front Street, as well as west of University Avenue. It is essentially the Downtown Core Cordon extended to the waterfront in the south and to John Street in the west; south of Front Street, it extends as far west as Bathurst Street, to include the entire Railway Lands development area.

It is intended that the Central Area and Extended Core Cordons will become the primary cordons for monitoring future travel trends in the Central Area; the Downtown and Downtown Core Cordons are included for the time being because historical trend information is readily available.

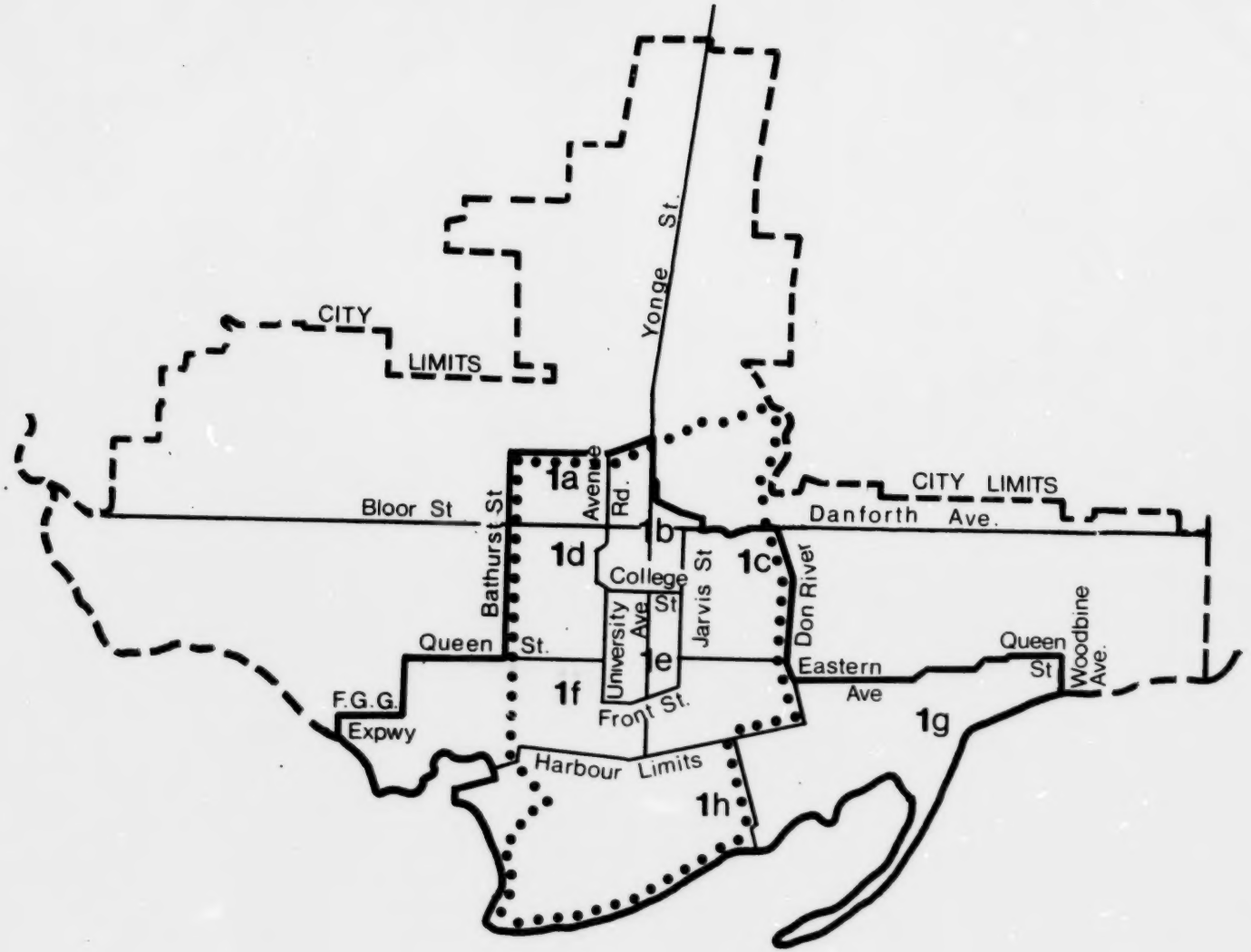
The cordons referred to above are identified on Exhibit 1; Exhibit 2 shows the relationship between the Central Area Cordon and PD1.

1.5 Participants

The following departments and agencies are represented on the Central Area Monitoring Program Project Team:

Metropolitan Toronto Planning Department;
Metropolitan Toronto Roads and Traffic Department;
City of Toronto Planning and Development Department;
City of Toronto Public Works Department;
Toronto Transit Commission (T.T.C.), Planning Branch;
GO Transit, Corporate Planning Branch;
Ministry of Transportation and Communications (M.T.C.), Municipal Transportation Policy/Planning Branch

In addition, M.T.C. has contributed subsidies to several surveys undertaken in 1986 for the Central Area Monitoring Program, and provides ongoing subsidies to the Metro Cordon Count Program.




PLANNING DISTRICT 1

CENTRAL AREA CORDON

EXHIBIT 2:
PLANNING DISTRICT 1 AND CENTRAL AREA CORDON

## 2. SOURCES OF INFORMATION

The Central Area Monitoring Program brings together data from a number of ongoing data collection programs, as well as from one-time studies and special surveys related to the Central Area. This section summarizes the major data sources available.

### 2.1 Metro Cordon Count Program

The Metro Cordon Count Program was established in 1975 as a biennial program of one-day counts of vehicles and passengers crossing a series of screenlines and cordons throughout Metropolitan Toronto. Counts are taken manually and recorded by 15-minute periods, between 6:30 a.m. and 11:30 p.m. Vehicles are classified into autos, taxis, trucks (light, medium and heavy), buses (T.T.C. and other), streetcars, subway cars and GO commuter rail cars. Passenger flows are summarized by the same classifications, excluding truck occupants, who are not counted. The counts are taken in May and June utilizing mostly student manpower hired by Metro, the City of Toronto and M.T.C., supplemented by T.T.C. subway passenger counts and GO Transit commuter rail passenger counts.

The Metro program was founded on the previous City of Toronto count program. Within the Central Area, counts have continued to be taken by staff hired by the City of Toronto Public Works Department. From 1975 to 1981, counts were taken in alternate years, simultaneously with those taken by Metro in the rest of Metropolitan Toronto. Counts at the Central Area Cordon were also taken in 1976 and 1978, but were not included in the Metro count summaries. Beginning in 1982, the City of Toronto counting program was split into 2 parts: the Central Area Cordon continued to be counted in odd years (1983, 1985,etc.) while the Downtown and Downtown Core Cordon counts were changed to even years (1982, 1984, 1986, etc.).

One of the requirements of the Central Area Monitoring Program is more intensive monitoring of travel into and out of the Central Area. Since the historical Downtown Core Cordon was no longer adequate for monitoring

travel associated with new development to the south and west of the core, the Extended Core Cordon was defined, as mentioned above. City of Toronto staff took on the responsibility of counting this cordon annually beginning in 1985.

It was also considered desirable to count the Central Area Cordon annually. However, since neither the City nor Metro could accommodate these counts without significantly expanding their budgets, T.T.C. Operational Planning Department staff agreed to modify their counting program, and take May/June roadside counts at the Central Area Cordon in 1986, 1988, etc.

2.2 Other Transportation Counting Programs

The T.T.C. collects passenger counts at peak locations on the subway system serving the Central Area on a monthly basis, and summarizes all-day and maximum hour counts annually, based on the average of the three highest monthly counts. Subway station usage counts of total passengers entering and leaving each station are taken annually and summarized in the form of time series tables. T.T.C. also conducts frequent roadside counts at peak load points on surface routes as well as periodic on-board riding counts. GO Transit takes complete station-to-station counts by train on all rail lines several times per year, as well as GO Bus counts and periodic origin/destination surveys.

2.3 Metro Employment Survey

In 1981, the Research Division of the Metropolitan Planning Department initiated an annual survey program to provide up-to-date information on employment throughout Metropolitan Toronto. In that year, all non-residential establishments identified from the Ontario Ministry of Revenue Assessment files were surveyed by temporary field staff. Only full-time employment was recorded and classified by various activity codes. In subsequent years, part-time employment was also collected.

In order to keep the cost of the survey program down, a two-year cycle

was instituted. In 1982, a 50% sample of establishments was surveyed. In 1983 and following years, all establishments not surveyed in the previous year were covered, as well as new establishments or those which had changed ownership. Thus, all establishments are surveyed at least every two years.

In 1986, the sample rate in PD1 was increased to 100% to provide a more precise estimate of employment, with the aid of a 50% Provincial subsidy. The results of the 100% survey were analyzed to determine how much employment growth would have been missed if the usual procedure had been followed of surveying only those establishments not surveyed in 1985. This discrepancy was estimated at 6,000 to 8,000 employees. It can be inferred that the total employment reported for P.D.1 in the 1983, 1984 and 1985 surveys was inaccurate, but to what degree is unknown. In order to establish an accurate growth rate, it was decided to undertake a further 100% sample survey in 1987, again with the assistance of a Provincial subsidy.

A pilot survey to collect demographic and travel data on part-time employees in the Central Area was conducted in conjunction with the 1986 employment survey; this survey was repeated and expanded in 1987.

## 2.4 Office Space Survey

The Metropolitan Planning Department maintains a computerized Office Data Bank of existing office space, in addition to proposals in various stages of approval. Information for the Central Area is obtained through the City of Toronto, and includes data from an annual survey conducted by Royal LePage of rented and vacant space in office buildings with over 1 858 sq.m. (20,000 sq.ft.) of net rentable office area. In 1985, the Royal LePage survey covered 308 buildings in the City's Central Area. Information from the Office Data Bank facilitates a detailed examination of the current distribution of office space, as well as a review of trends in the supply and demand of office space and in rental costs and vacancy rates.

## 2.5 Other Special Surveys

The City of Toronto Planning and Development Department has conducted the following special surveys in connection with the Central Area Monitoring Program and Quinquennial Review of the Central Area Plan:

(a) Office Attendance Survey:

A survey was undertaken in June 1986, based on an earlier 1984 survey of a.m. peak period arrivals and departures at a sample of 19 office buildings in the Central Area. Information from this survey was compared to employment data to derive peak period and peak hour trip generation rates, which were then compared with trip generation models currently in use for forecasting. Arriving office workers were also asked to indicate their mode of travel to work.

(b) Work Trip Survey of Central Area Residents:

Based on a 1981 pilot survey, a mail back survey of 3,400 residents of the Central Area was conducted in 1986. The purpose of the survey was to obtain information on the mode split of home-to-work travel, and to evaluate the impact on transportation requirements of the relatively high incidence of walk-to-work travel by the steadily increasing number of Central Area residents.

Additionally, in conjunction with a Downtown Employment Study being conducted by the City of Toronto Economic Development Committee consultants were retained to examine the future for office employment and demand for space. The study "Outlook for Office Employment and Space in the Central Area" was undertaken for the City of Toronto by Hemson Consulting Ltd. The approach involved analysis of employment and of space consumption data by industry. A total of 250 firms and organizations occupying office space were surveyed. The results were used to estimate employment, floor space per worker ratios and new space demand for the period 1986 to 1991.

2.6 Census

The 1971, 1981 and 1986 Census collected information on place of work for a 20% sample of resident households across Canada. Pending the results of a pilot project to geocode 1986 place of work data for Peel and York Regions, the Metro data should be available in 1988. Thus the 1981 Census provides the most recent available comprehensive data on place of residence/place of work. Since it is a residence based survey, there are some difficulties arriving at totally accurate data at the work end. However, its high sample rate and complete coverage provides the best data available on the distribution of place of residence for Central Area employees. The 1981 Census data has been analyzed in "1981 Journey-to-Work Travel Patterns" published by the Metropolitan Planning Department in 1984, and in the City of Toronto 1986 QQR Background Report No.7, "Central Area Travel Patterns."

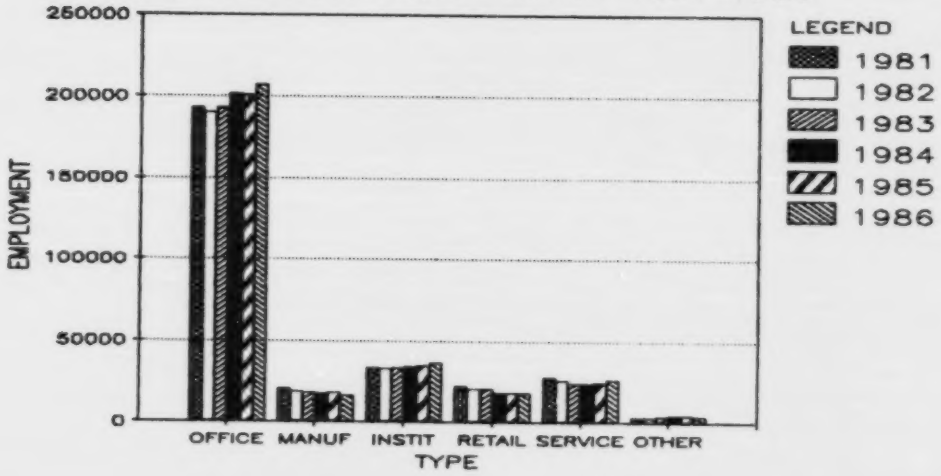
2.7 Greater Toronto Area Travel Survey

This survey, also known as the Transportation Tomorrow Survey, was a comprehensive telephone home interview travel survey undertaken in the fall of 1986 across Metropolitan Toronto and the Regions of Durham, York, Peel, Halton and Hamilton-Wentworth. It was the first such inter-regional survey undertaken since 1964, and was a joint effort of Metro and the five Regions, as well as T.T.C., GO Transit and M.T.C. The Province provided a 75% subsidy of the total budget of $800,000.00, and over 60,000 households were interviewed, comprising 4% of total households in the survey area. Information was collected on household size and type; age, sex and employment status of members; and characteristics of daily trips by auto and transit (plus walk trips to work or school).

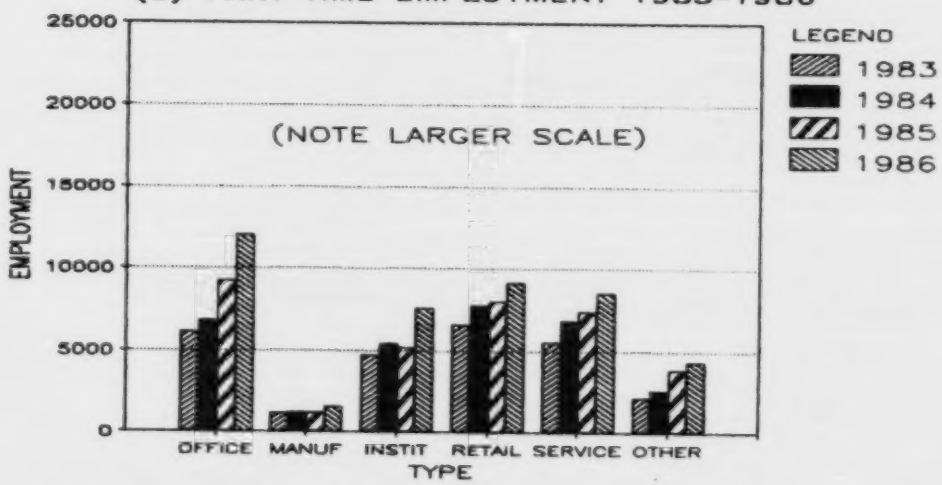
Because of the size of the data base and the amount of processing involved, information is not expected to be available for analysis until some time in 1988. For future reports in this series, the survey should provide valuable additional data on the trip generation, peaking characteristics and mode split of both residents and employees of the Central Area.

**EXHIBIT 3:**
EMPLOYMENT WITHIN CENTRAL AREA CORDON

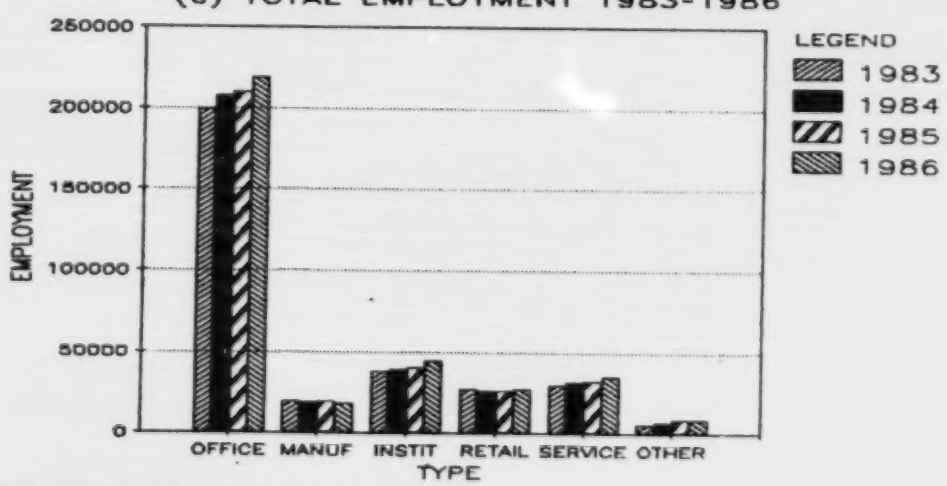
(a) FULL-TIME EMPLOYMENT 1981-1986




(b) PART-TIME EMPLOYMENT 1983-1986




(c) TOTAL EMPLOYMENT 1983-1986




SOURCE: METRO PLANNING E.L.A. DATA BANK

# 3. FINDINGS

## 3.1 Employment

In February, 1987, the Metropolitan Planning Department Research Division published Metro Facts Report 06 - "Monitoring the Toronto Central Area Employment". This report summarizes data from the Metro Employment Surveys for 1981 through 1986, for PD1 and the eight component Minor Planning Districts. Part-time and total employment data are presented for 1983 through 1986, while full-time employment is also shown for 1981. Employment is presented by six major sectors: office, manufacturing/warehousing, institutional, retail, service and other. Other information on establishment size and length of occupancy is also presented.

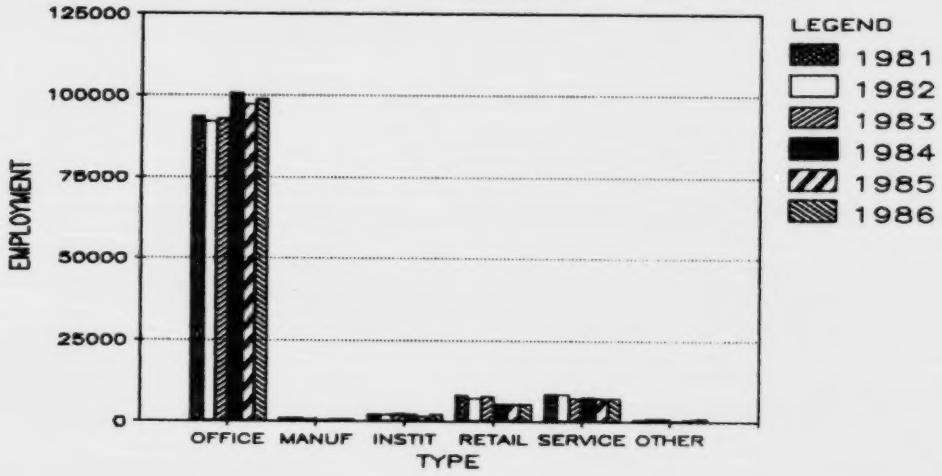
Additional employment information for the areas enclosed by the Central Area, Downtown, Downtown Core and Extended Core Cordons has been generated by the Research Division for this report; this is tabulated in detail in Exhibit A.1 in the Appendix.

In the area enclosed by the **Central Area Cordon,** full-time employment as reported in the Metro Employment Survey showed a slight decline between 1981 and 1983 in all sectors except Institutional and Other, which remained stable (Exhibit 3). The net decrease over all sectors was 7,700. Between 1983 and 1986, all sectors showed growth in full-time employment except for the Manufacturing/Warehousing and Retail sectors. Total net growth for this period was 15,500.

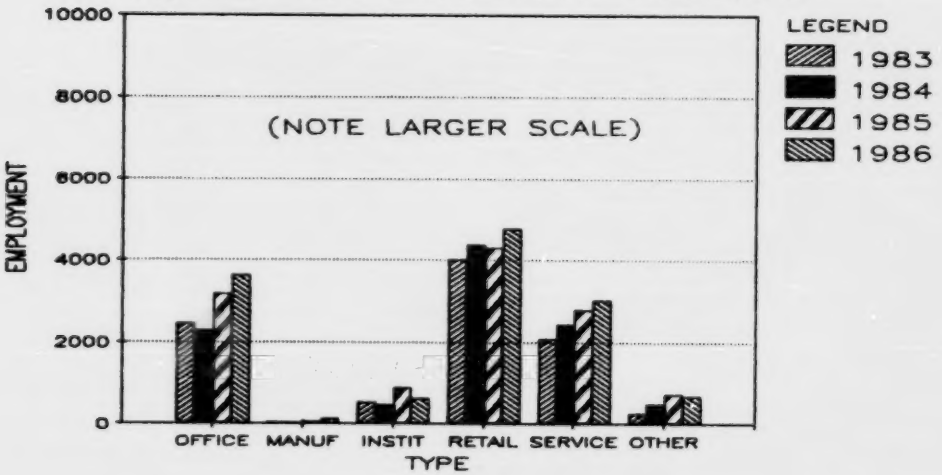
Part-time employment showed a substantial increase between 1983 and 1986 in all sectors; the overall growth was 64%, compared to 5% in full-time employment.

Total (full-time plus part-time) employment grew between 1983 and 1986 in the Office, Institutional, Service and Other categories, while Manufacturing/Warehousing declined. Overall reported growth in total employment was 11.1% between 1983 and 1986, and 4.9% between 1985

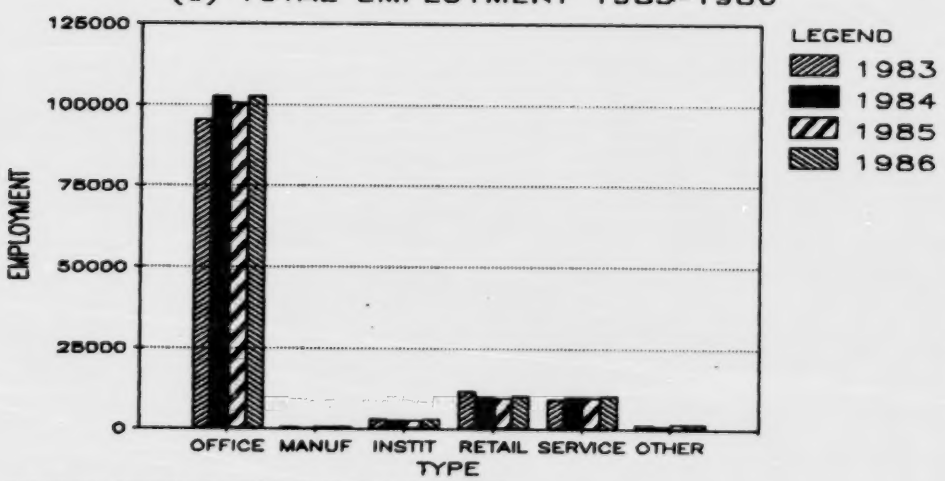
**EXHIBIT 4:**
EMPLOYMENT WITHIN DOWNTOWN CORE CORDON
(a) FULL-TIME EMPLOYMENT 1981-1986




(b) PART-TIME EMPLOYMENT 1983-1986




(c) TOTAL EMPLOYMENT 1983-1986




SOURCE: METRO PLANNING E.L.A. DATA BANK

and 1986. In Retail, the drop in full-time employment was more or less matched by the increase in part-time. Although the Office sector has the smallest percentage of part-time employees, it showed the largest increase in part-time between 1983 and 1986, and had the largest number of part-time employees in 1986. The Office sector accounted for 62% of the total employment in 1986. On average, part-time employment accounted for 12.2% of the total employment compared to 8.2 in 1983.

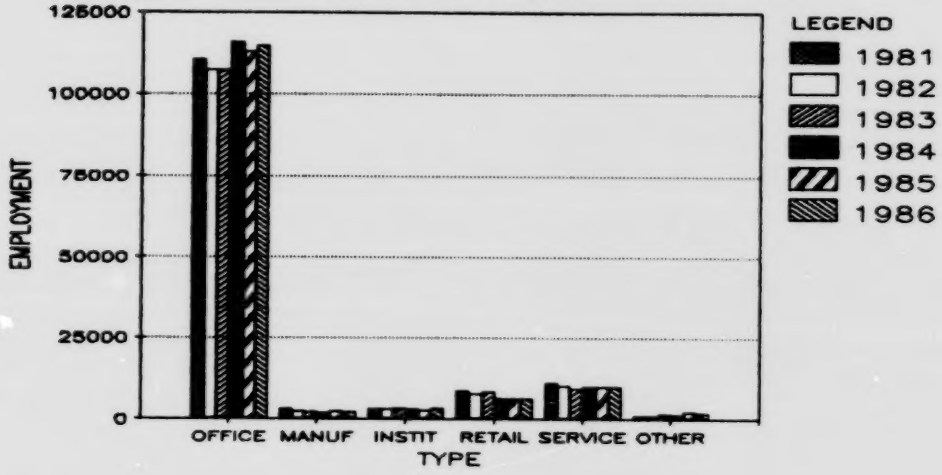
Part of the reported growth between 1985 and 1986 in both full-time and part-time is attributable to the change from a 50% to a 100% sample survey, as reported in Section 2.3. If it is assumed that the growth is overstated by approximately 6,000, the revised net growth in total employment would be 9.4% from 1983 to 1986 and 3.3% from 1985 to 1986.

The same observations, with minor variations, can be made for PD1, since 90% of its employment is inside the Central Area Cordon. The largest difference is in the Manufacturing/Warehousing category, since PD1 includes waterfront industrial areas west of Bathurst Street and east of the Don River, which are outside the Central Area Cordon.

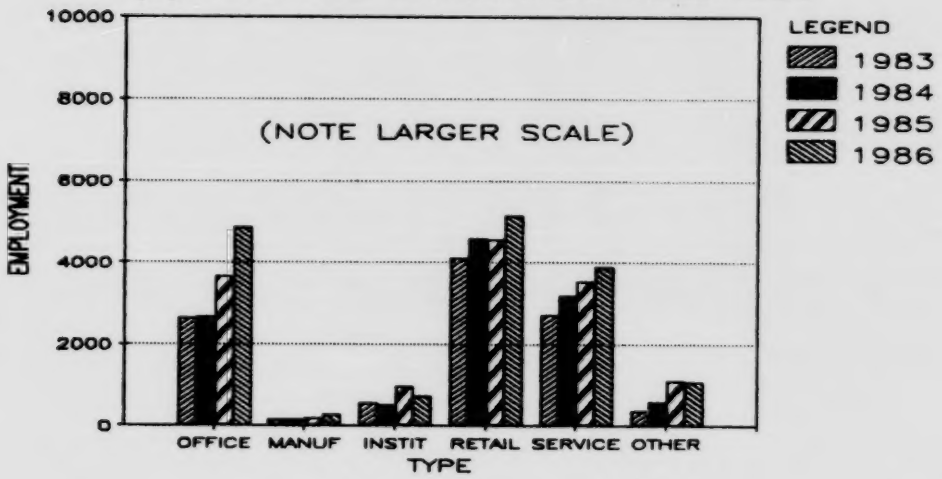
Within the **Downtown Core Cordon**, the Office sector accounted for 79% of total employment in 1986. Full-time Office employment decreased from 1981 to 1982, recovered in 1983, reached a peak in 1984, dropped again in 1985 and recovered somewhat in 1986, (Exhibit 4). An increase in part-time employment brought the reported 1986 total office employment back up to the 1984 level. In the only other two significant categories, total employment decreased slightly in Retail and increased somewhat in Service. Total employment in all categories combined increased by 5% between 1983 and 1986; full-time increased by 3% while part-time showed a 37% increase. Overall, part-time was 10% of total employment in 1986.

**EXHIBIT 6:**
EMPLOYMENT WITHIN EXTENDED CORE CORDON

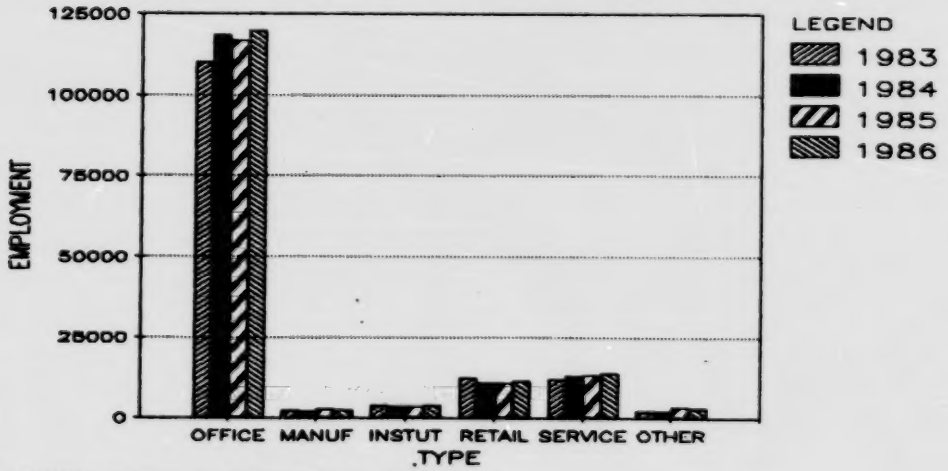
(a) FULL-TIME EMPLOYMENT 1981-1986




(b) PART-TIME EMPLOYMENT 1983-1986




(c) TOTAL EMPLOYMENT 1983-1986




SOURCE: METRO PLANNING E.L.A. DATA BANK

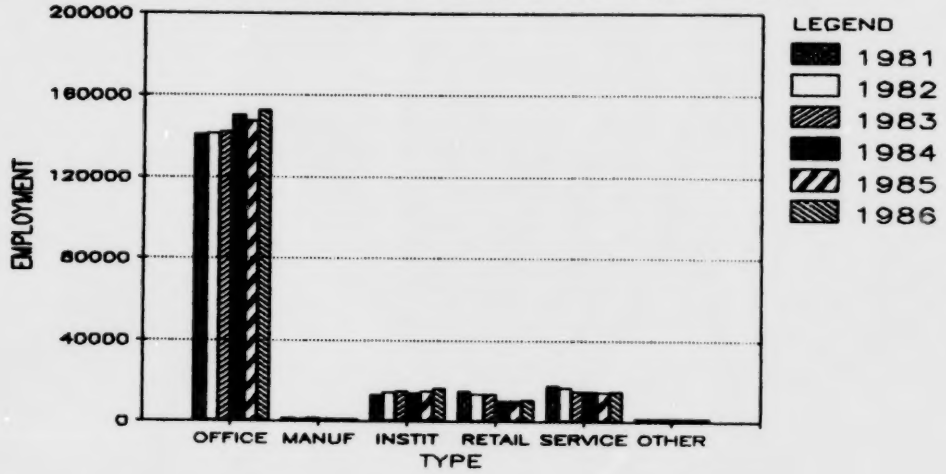
The **Extended Core Cordon** exhibits very similar patterns to the Downtown Core, since 83% of its total employment is also within the Downtown Core, (Exhibit 5). It has slightly higher proportions of Manufacturing/Warehousing, Institutional, Service and Other categories.

The **Downtown Cordon** is a northward extension of the Downtown Core Cordon; 68% of its total employment is within the Downtown Core, (Exhibit 6). The growth patterns of the Office, Retail and Service categories are almost identical to those for the Downtown Core. The Downtown Cordon has a substantially higher component of Institutional employment, since it includes several major hospitals and educational establishments. In this category, both full-time and part-time employment were stable between 1983 and 1984, then grew in 1985 and 1986. For all categories combined, full-time employment grew by 5%, part-time by 60% and total employment by 10% between 1983 and 1986.

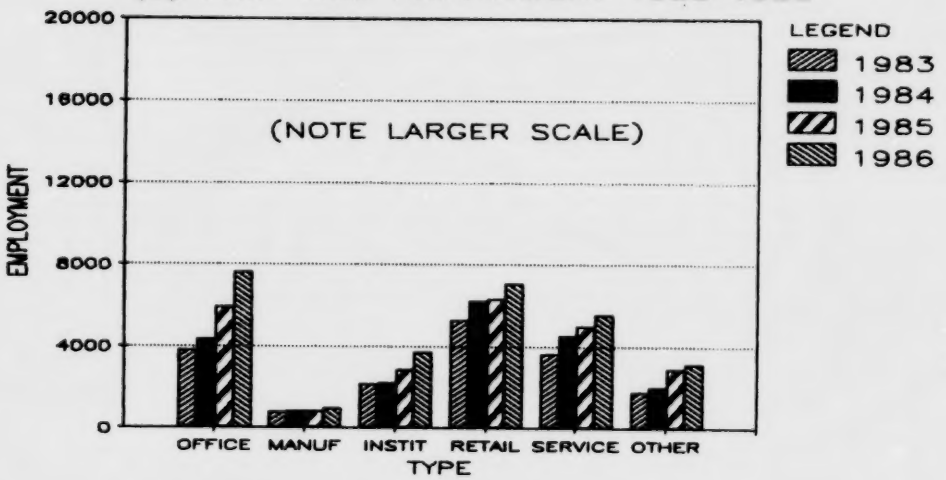
The same comments with respect to possible understatement of 1985 employment relative to 1986 apply to the above analyses.

Metro Facts Report 06 also analyzes employment change by Minor Planning District (MPD) of which there are 8 in PD1. Exhibit 7 shows the MPD's and the changes in total employment between 1983 and 1986. (MPD 1H, Toronto Islands, is combined with 1G). The largest cumulative percentage growth from 1983 to 1986 occurred in 1C and in 1G/1H (27%). The highest absolute growth (16,400) occurred in 1E, which also experienced the highest growth in Office employment (14,850). MPD 1E covers the established Financial District, and is slightly larger than the Downtown Core Cordon - the north boundary is College Street rather than Dundas Street. Only MPD's 1F and 1G/1H have a substantial component of Manufacturing/Warehousing employment. Although this category declined from 22,100 to 17,450 in MPD 1F, it experienced an increase from 5,500 to 7,100 in MPD 1G/1H between 1983 and 1986.

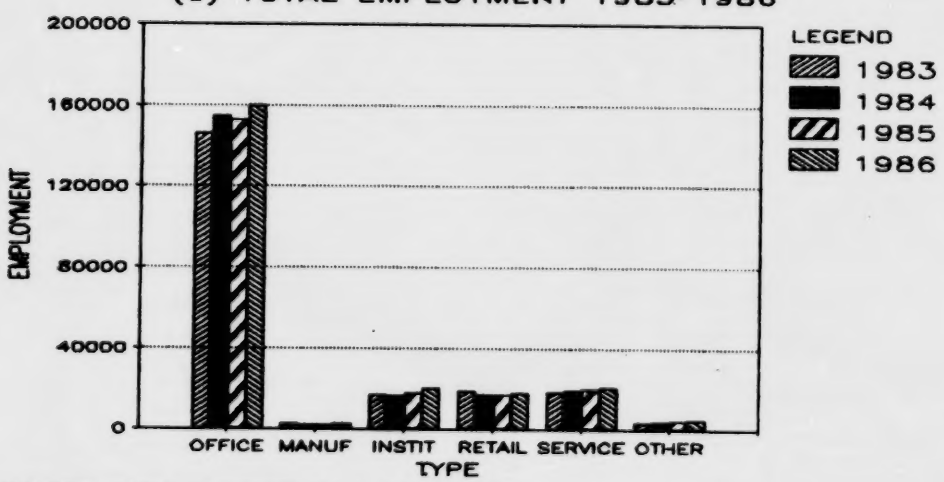
**EXHIBIT 6:**
EMPLOYMENT WITHIN DOWNTOWN CORDON
(a) FULL-TIME EMPLOYMENT 1981-1986




(b) PART-TIME EMPLOYMENT 1983-1986



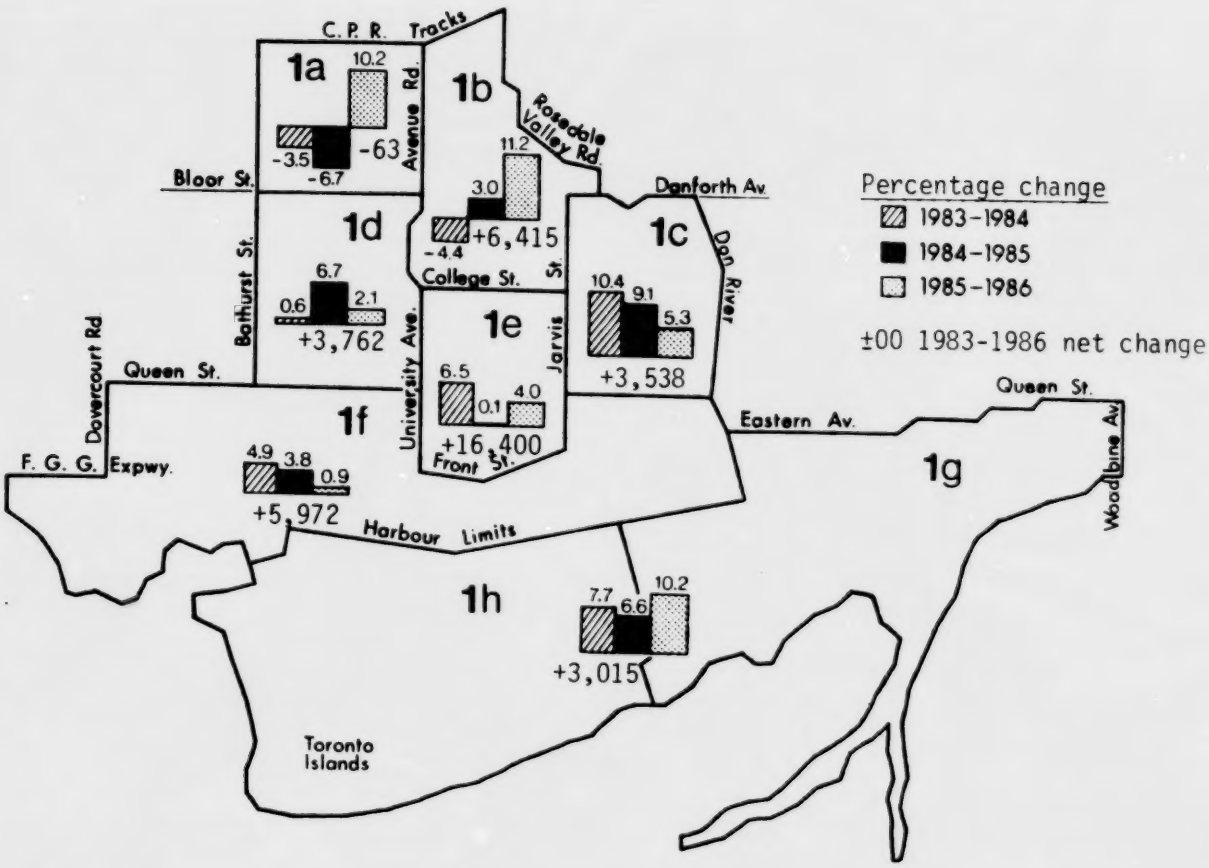

(c) TOTAL EMPLOYMENT 1983-1986




SOURCE: METRO PLANNING E.L.A. DATA BANK

EXHIBIT 7:

CHANGE IN TOTAL EMPLOYMENT BY MINOR PLANNING DISTRICT, P.D.1, 1983-1986




Source: Metro Facts Report 06

**Exhibit 8**

**Total Population by Four Cordons**

| YEAR | CORDON | | | |
|---|---|---|---|---|
| | Central Area | Downtown Core | Extended Core | Downtown |
| 1981 | 120,755 | 705 | 3,975 | 22,090 |
| 1982 | 123,470 | 710 | 4,195 | 22,305 |
| % Growth 81-82 | 2.2% | 0.7% | 5.5% | 1.0% |
| 1983 | 125,105 | 1,040 | 4,795 | 23,245 |
| % Growth 82-83 | 1.3% | 46.5% | 14.4% | 4.2% |
| 1984 | 125,810 | 1,305 | 5,105 | 23,585 |
| % Growth 83-84 | 0.6% | 25.4% | 7.0% | 1.4% |
| 1985 | 127,845 | 1,700 | 5,700 | 25,660 |
| % Growth 84-85 | 1.6% | 30.4% | 11.7% | 8.8% |
| 1986 | 128,620 | 1,765 | 6,280 | 25,970 |
| % Growth 85-86 | 0.6% | 3.7% | 10.2% | 1.2% |
| Increase 81-86 | 7,865 | 1,060 | 2,305 | 3,880 |
| % Growth | 6.5% | 150.4% | 58.0% | 17.6% |

## 3.2 Population

Population data for 1981 through 1986 from Assessment files were tabulated for the same four cordon areas, as shown in Exhibit 8. The population within all four cordons showed a growth in each year. The Assessment population counts are most reliable for municipal election years (1982 and 1985), when a door-to-door enumeration was conducted. In other years mail-back forms are used to monitor changes, resulting in low counts, under-representation of younger age groups and more "unstated" ages. The Assessment population is consistently below that derived from the Census.

Within the **Downtown Core Cordon**, population grew by 150% between 1981 and 1986, from 705 to 1,765. This is accounted for largely by apartment development on Jarvis Street and Front Street. Inside the **Extended Core Cordon**, which also includes the waterfront area between Jarvis Street and Bathurst Street, the population grew by about 2,305 to 6,280 a total increase of 58%. The net growth south of Front Street was 1,245; this can be expected to increase further in the near future with the completion of apartment buildings currently under construction at Harbourfront.

The population within the **Downtown Cordon** increased by 3,880 or 17.6%, to a total of 25,970 in 1986. The net growth north of Dundas Street was 2,820.

Within the **Central Area Cordon**, the population increased by 6.5%, from 120,755 to 128,620, between 1981 and 1986. The net growth in the areas not covered by the other 3 cordons was 2,740, accounted for largely by new housing in the St. Lawrence area.

This growth in Central Area population is in contrast to the steady or declining population in most parts of the City of Toronto, and in many other parts of Metropolitan Toronto. For example, population in the City

EXHIBIT 9:
**The Toronto Region**

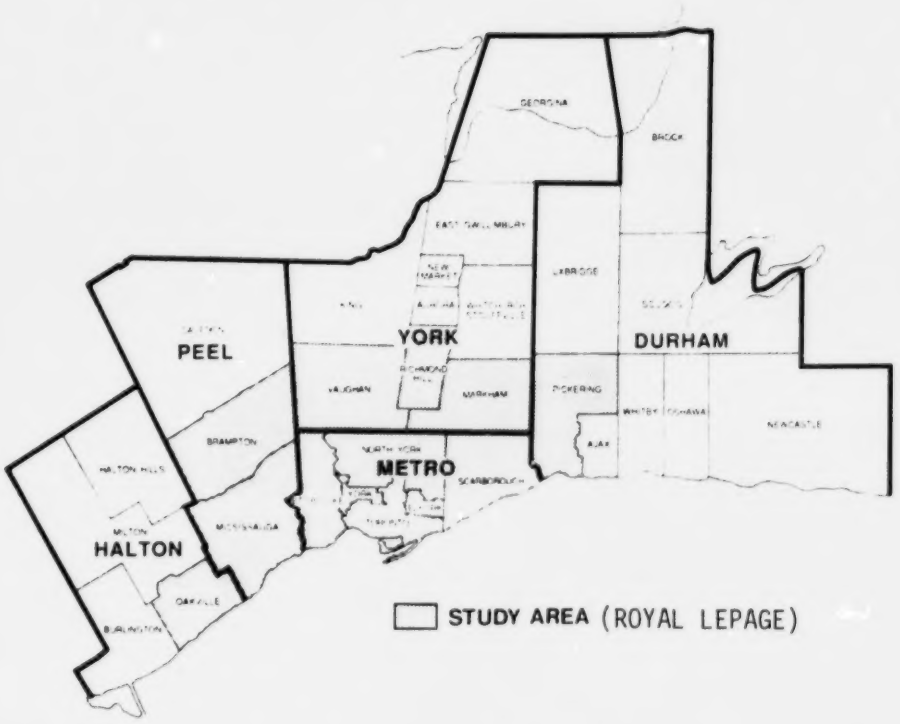
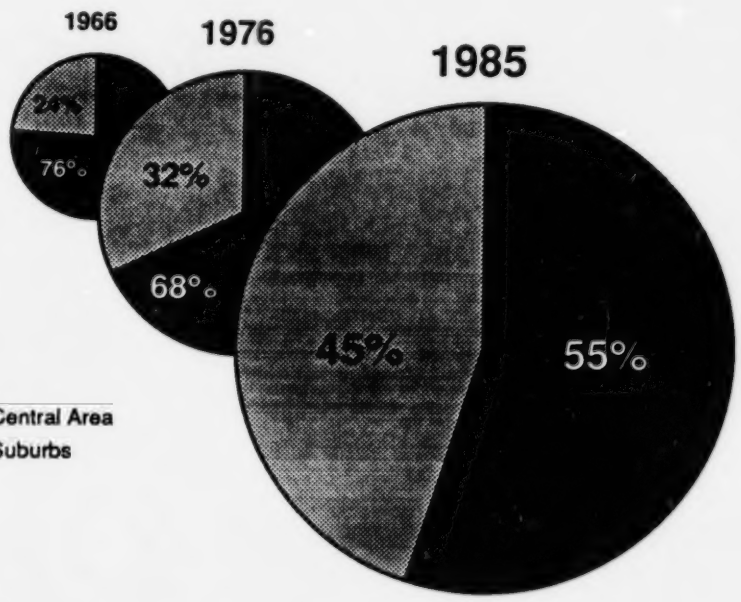



EXHIBIT 10:
**Share of Office Space**




Source of graphs: City of Toronto Quinquennial Review Background Paper No. 1

of Toronto excluding the Central Area, decreased from 473,325 to 462,405 between 1981 and 1986. Population stayed almost constant in York and East York, declined in Etobicoke and North York, and grew only in Scarborough by 33,200 between 1981 and 1986.

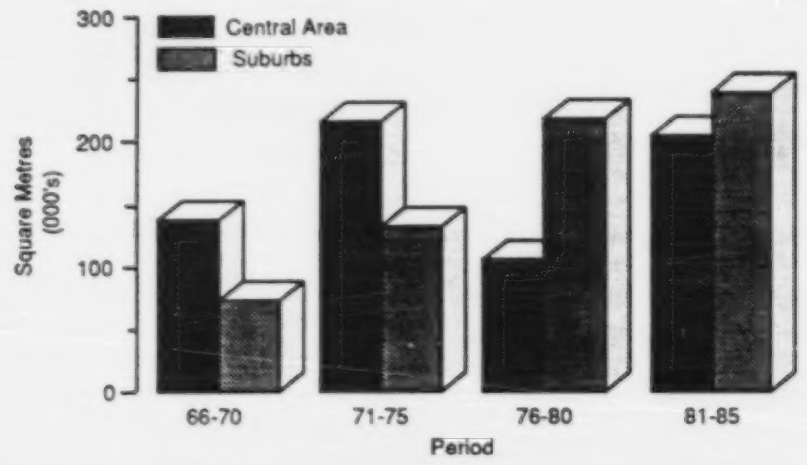
The encouragement of residential development in the Central Area was a specific policy of the City's 1976 Central Area Plan. New housing in the Central Area covers a wide range, from rent-subsidized apartments to high-priced condominiums. As determined from City of Toronto surveys, the majority of the labour force resident in the Central area also work in the Central Area, and a significant proportion walk to work. An upward trend in Central Area labour force tends to offset the need to provide additional transportation capacity into the Central Area. At present, the proportion of total Central Area employees who live in the Central Area is relatively small (10.2% according to the 1981 Census), but is likely to become more significant in the future with further residential development in the Central Area.

## 3.3 Office Conditions

### 3.3.1 Office Space and Vacancy Rates

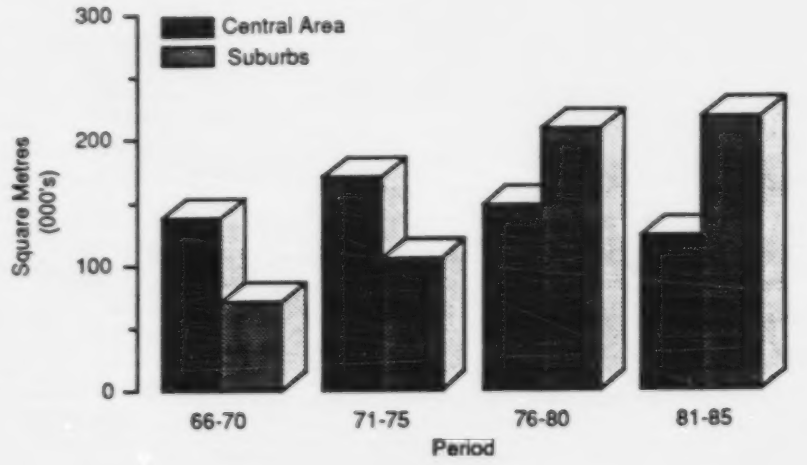
As reported in the City of Toronto Quinquennial Review Background Paper No.1, based on Royal LePage office surveys, office space in the Central Area tripled between 1966 and 1985. However, growth in the remainder of the Toronto Region has been much greater, especially since 1975, such that the Central Area's share of total regional office space has fallen from 76% in 1966 to 68% in 1976 and 55% in 1985, (see Exhibits 9 and 10). Total Central Area office space surveyed by Royal LePage in 1985 was 4.7 million square metres. The average rate of growth recorded between 1976 and 1985 was 155,000 square metres per year in the Central Area compared to 228,000 square metres per year in the suburban areas (i.e. outside the Central Area) see Exhibit 11. The Central Area still remains the major concentration of office space in the Toronto Region.

EXHIBIT 11:
**Average Annual Rate of Growth**
**(Total Office Space)**




*Source: Royal LePage Ltd.*

EXHIBIT 12:
**Average Annual Rate of Absorption**
**(Occupied Office Space)**




*Source: Royal LePage Ltd.*

Source of graphs: City of Toronto Quinquennial Review Background Paper No. 1

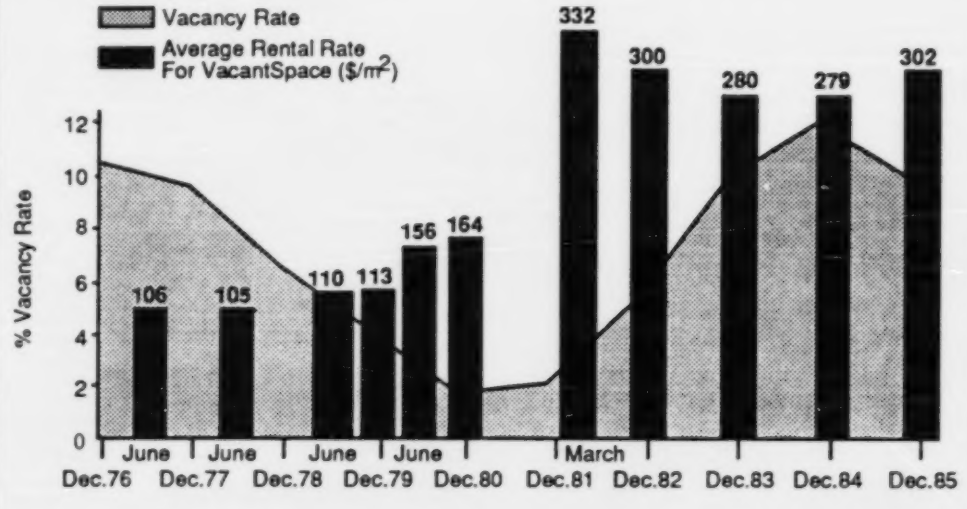
The demand for office space is measured through annual changes in the total amount of occupied floor space. The rate of absorption of office space is a critical factor in the analysis of office growth since it focusses on occupied space and, therefore, closely parallels changes in office employment.

The Central Area has shown a slowdown in the rate of absorption since the mid 1970's, compared to increases in the suburbs. The average annual rate of absorption in the Central Area was 123,000 square metres between 1981 and 1985, compared to 148,000 square metres between 1976 and 1980, and 170,000 square metres between 1971 and 1975 (Exhibit 12). The recession of 1982-1983, relocation of many firms and office functions to suburban locations, and a sharp increase in Central Area rental rates appear to be the major factors influencing the decline in demand for Central Area office space since 1981.

The supply of new office space in the Central Area has exceeded the demand since 1981; 1983 was the peak year for new office space coming onto the rental market. Vacancy rates have been quite volatile, ranging from a low of 1.8% in 1980 to a high of 12.0% in 1984, declining quite significantly to 9.9% in December, 1985, 7.9% in December, 1986 and 6.0% in June, 1987, according to Royal LePage data. Vacancy rates are expected to remain in the 6.0 to 8.0% range; several major office projects are currently under construction or in the approval stages (e.g. Scotia Plaza, Eaton Centre Phase III, BCE Place and World Trade Centre), resulting in a competitive market. Vacancy rates quoted do not include "frictional" vacancy, i.e. space leased but not actually occupied. Asking rents for vacant space in the Central Area doubled from an average of $164 per square metre in December, 1980 to $332 in March 1982; these have since stabilized near $300. This does not reflect rents on currently occupied space, nor special incentives which may reduce actual rents by an average of 25% (see Exhibit 13).

EXHIBIT 13:

**Relationship between Rental Rates and Vacancy Rates**
**Central Core**
**1976-1985**




Source: City of Toronto Quinquennial Review Background Paper No.1

EXHIBIT 14:

**Trends In Floor Space Per Worker Ratios**
**1960-1985**

| Year | Source | Sample | Area | FSW Gross* (sq. m) |
|---|---|---|---|---|
| 1960 | City of Toronto Planning Board | 4,800 firms | Downtown Planning District | 19.2 |
| 1970 | Metro Planning Employment Survey | 38 bldgs. | Central Core | 21.5 |
| 1971/72 | Dr. G.H.K. Gad U of T | 425 firms | Central Corridor | 21.4 |
| 1975 | IBI Group | 51 firms | Central Core | 22.9 |
| 1980 | City of Toronto Planning & Development | 265 bldgs. | Central Core | 25.0 |
| 1983 | City of Toronto Planning & Development | 152 bldgs. | Central Core | 25.0 |
| 1984 | City of Toronto Planning & Development | 162 bldgs. | Central Core | 26.2 |
| 1985 | City of Toronto Planning & Development | 161 bldgs. | Central Core | 26.0 |

* *Gross square metres of occupied building area - measured from outside wall to outside wall.*

Source: City of Toronto Quinquennial Review Background Paper No.5

The trend to higher vacancy rates than in the past is common to most North American cities, and may be due in part to the demand for "smart" space able to accommodate the latest electronic technology with local and wide area communication networks. Vacancy in older, technically obsolete buildings will tend to remain high until they can be upgraded or replaced.

Suburban office parks and sub-centres have attracted an increasing share of new office space in the Toronto region since 1980, in line with the policies of the City and Metropolitan Official Plans.

The Quinquennial Review Background Paper No.4 quotes total gross office floor space in the Central Area at the end of 1985 as 6.3 million square metres, with an annual average growth since adoption of the Central Area Plan in 1976 of 150,000 square metres. At the end of 1985, approximately 300,000 square metres of office space were under construction in the Central Area, while an additional 900,000 square metres were in various stages of review and approval.

### 3.3.2 FSW Index

The floor space per worker (FSW) index measures the intensity of office use, and is the link between floor space and number of employees. Various surveys taken in the Central Core (slightly larger than the area enclosed by the Downtown Cordon), indicate a steady growth in the amount of floor space per worker, as shown on Exhibit 14. A 1960 City of Toronto survey showed 19.2 sq.m. per worker; Metro and consultant surveys in the early 1970's showed an average of 21.5 square metres per worker, while later City of Toronto surveys have shown a small increase from 25.0 to 26.0 square metres per worker between 1980 and 1985 (measured in terms of gross square metres of occupied building area). This can be related to the growing proportion of managerial and professional workers, reflecting the attractiveness of the Central Core for head office functions of large corporations, together with the

relegation of many clerical functions to suburban locations with lower rents and access to the suburban labour force. Also, stabilization of office rents and generous tenant inducements may have contributed to increased space consumption beyond that required by employment increases. These findings are quoted from Quinquennial Review Background Paper No.5.

3.3.3 Employee Arrival Rates and Mode Split

In June of 1986, the City of Toronto Planning and Development Department conducted one-day "Elevator" surveys of 19 major office towers in the Central Area to obtain peak hour arrival rates and modal split data. Field staff recorded all persons entering and leaving the elevators by 5-minute periods between 7:00 and 9:30 a.m. Outbound trips were subtracted from inbound to provide net inbound trips, so as to exclude non-employees, and employees who might arrive, leave for coffee, and re-enter during the survey period. Some general statistics from a preliminary analysis of the survey are presented below. For reasons of confidentiality, individual buildings and firms cannot be identified. The net persons counted entering between 7:00 and 9:30 a.m. ranged from a low of 483 to a high of 5,822. The total counted was 29,541, about 14% of total office workers in PD1.

The distribution of arrival times during the survey period varied considerably between buildings, reflecting different work policies of various tenants, and the number and size of establishments within a building. The proportion of arrivals occurring in the peak hour compared to the maximum 2 hour rush period varied from 0.59 to 0.77, with an average of 0.67. In a number of buildings, and in the aggregate data for all buildings, a noticeable surge of arrivals occurred at 8:30 a.m. and at 9:00 a.m.

The ratio between 7:00 to 9:30 a.m. arrivals and 1986 total employment from the Metro Office Data Bank, varied between a low of 0.34 to a high

of 1.13, assuming that the employment data were correct for the time of the survey. A low ratio implies a high proportion of employees who do not work regular business hours, while a ratio close to or greater than 1.0 implies a significant number of visitors. A final report will be published by the City of Toronto Planning and Development Department including analysis of arrival patterns as related to employment, comparison of estimated FSW ratios with other surveys, and comparison of arrivals with those estimated using a standard trip generation model.

Approximately 10,000 persons, representing 34% of the net arrivals counted, participated in a voluntary modal split survey carried out at the same time as the elevator survey. For the total sample, 20% indicated that they arrived at work by automobile, 52% by T.T.C., 24% by GO Transit and 4% by other modes (including walk). The lowest auto usage was recorded for major buildings in the Financial District. These are characterized by convenient access to T.T.C. and GO Transit, and by high parking charges. Higher auto usage, of over 30%, was observed for more outlying buildings.

It is the intent of the Metropolitan Planning Department to review the peaking and trip generation factors currently used in its travel demand modelling and project analysis acitivities, in the context of information from this survey.

## 3.4 Transportation System Usage

This section presents summaries and analyses of person and vehicle flow data collected under the Metropolitan Cordon Count Program, as well as other specific road and transit counts at critical locations. Emphasis is placed on the present situation in comparison with 1981, identified as a peak year for overall T.T.C. ridership, in particular on the Yonge subway south of Bloor station.

### 3.4.1 Cordon Counts

Exhibits A.2 through A.9 in the Appendix present detailed data from the

Metro Cordon Count Program for the four cordons identified in the Central Area, for the period 1975 to 1986. Exhibits 15 through 18 are graphical summaries of the trends in passenger and vehicle flows for the peak periods, peak directions.

Comparison of the vehicle flow graphs for the Central Area Cordon show similar trends in a.m. peak inbound and p.m. peak period outbound flows between 1975 and 1985. However, the 1986 counts indicate a significant increase in a.m. inbound travel and a substantial decrease in p.m. outbound travel. The reasons for this anomaly are not immediately obvious. A similar situation exists at the Extended Core Cordon, for which counts are only available from 1985 and 1986.

This phenonemon is not apparent at the Downtown and Downtown Core Cordons, where the 1986 counts are very close to the previous counts, in this case for 1984. A major contributor to the differences at the two outer cordons is the Gardiner Expressway, which does not intersect the inner cordons. This expressway also carries a significant amount of traffic travelling through the Central Area.

The vehicle flows (predominantly auto) recorded at the Central Area Cordon peaked in 1979, dropped in 1981 then rose again to 1979 levels by 1985, in both peak periods. Auto passenger trips followed a similar trend, but because of declining auto occupancy, had not returned to 1979 levels by 1985. Transit passenger flows (mostly subway) showed a decrease from 1981 peak levels, more noticeably in the a.m. than the p.m. peak period. GO Rail passengers showed a continuous increase from 1975 through 1985, with the largest growth between 1979 and 1981. There was little change in GO Rail between 1985 and 1986.

At the Downtown and Downtown Core Cordons, the a.m. peak period inbound vehicle flows show a fairly steady growth from 1975 through 1986, with the exception of a significant dip in the 1982 count. The p.m. peak outbound flows exhibit a similar but less definite trend. Again, auto

person flows show a less significant upward trend than auto vehicles, especially in the p.m. peak period, reflecting declining auto occupancy. Exhibit 19 summarizes the average auto occupancy since 1975 at the Central Area and Downtown Core Cordons; a steady downward trend is apparent in both peak and all-day periods.

Transit passenger flows show a decline in 1984 and 1986 compared to peak levels recorded in 1981 or 1982. Although GO ridership continues to rise, there is no definite trend in the total persons entering or leaving the two cordons in the peak periods; in all cases the 1986 total person count is lower than in 1984, but higher than before the 1981/82 peak. However, the all-day (7:00 a.m. to 7:00 p.m.) total person counts have shown a steady growth, indicating that more travel is occurring outside the traditional peak periods.

It should be borne in mind that the Cordon Counts are based on one-day counts taken in May and June, when student manpower is available, and do not necessarily represent peak travel months in the fall or early spring (for roads) and the winter (for transit). They are also subject to random day-to-day variations due to weather, accidents, construction, etc. Vehicle counts can be expected to be more accurate than passenger counts; loads on crowded subway or surface transit vehicles are difficult to estimate, and accuracy depends on the experience and judgement of the counter.

Vehicle and passenger volumes counted crossing a cordon consist of trips which originate or are destined within the cordon, and of trips passing through the cordon, which are counted both entering and leaving. Through trips at the Central Area Cordon are highest on major facilities such as the Gardiner Expressway and the Bloor-Danforth subway, but may also be significant on arterial roads and surface transit routes. The role of through trips in relation to originating and destined trips and to road and transit capacities will be addressed in future issues of this report.

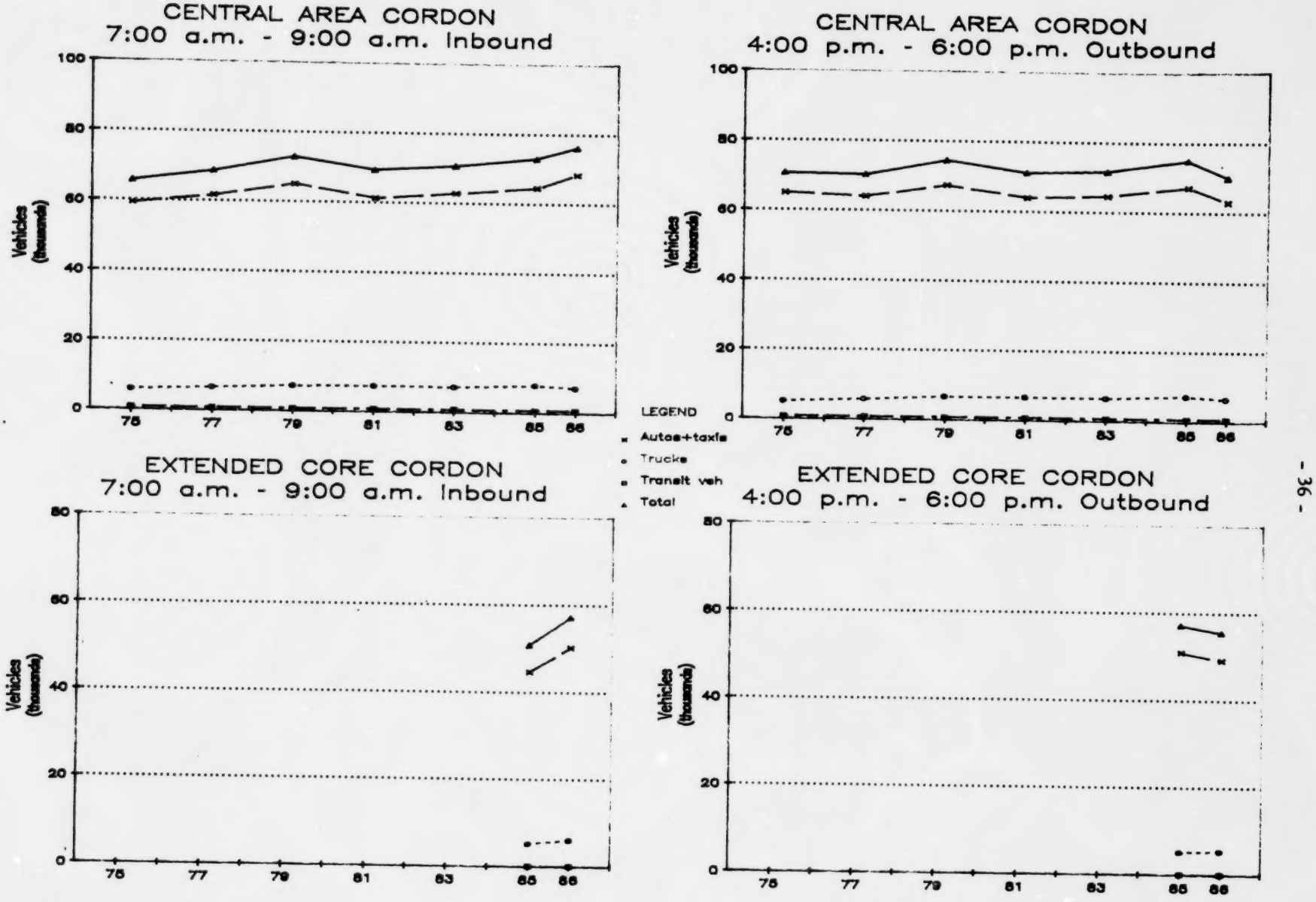



EXHIBIT 15: PEAK PERIOD VEHICLE TRIPS CROSSING CENTRAL AREA AND EXTENDED CORE CORDONS

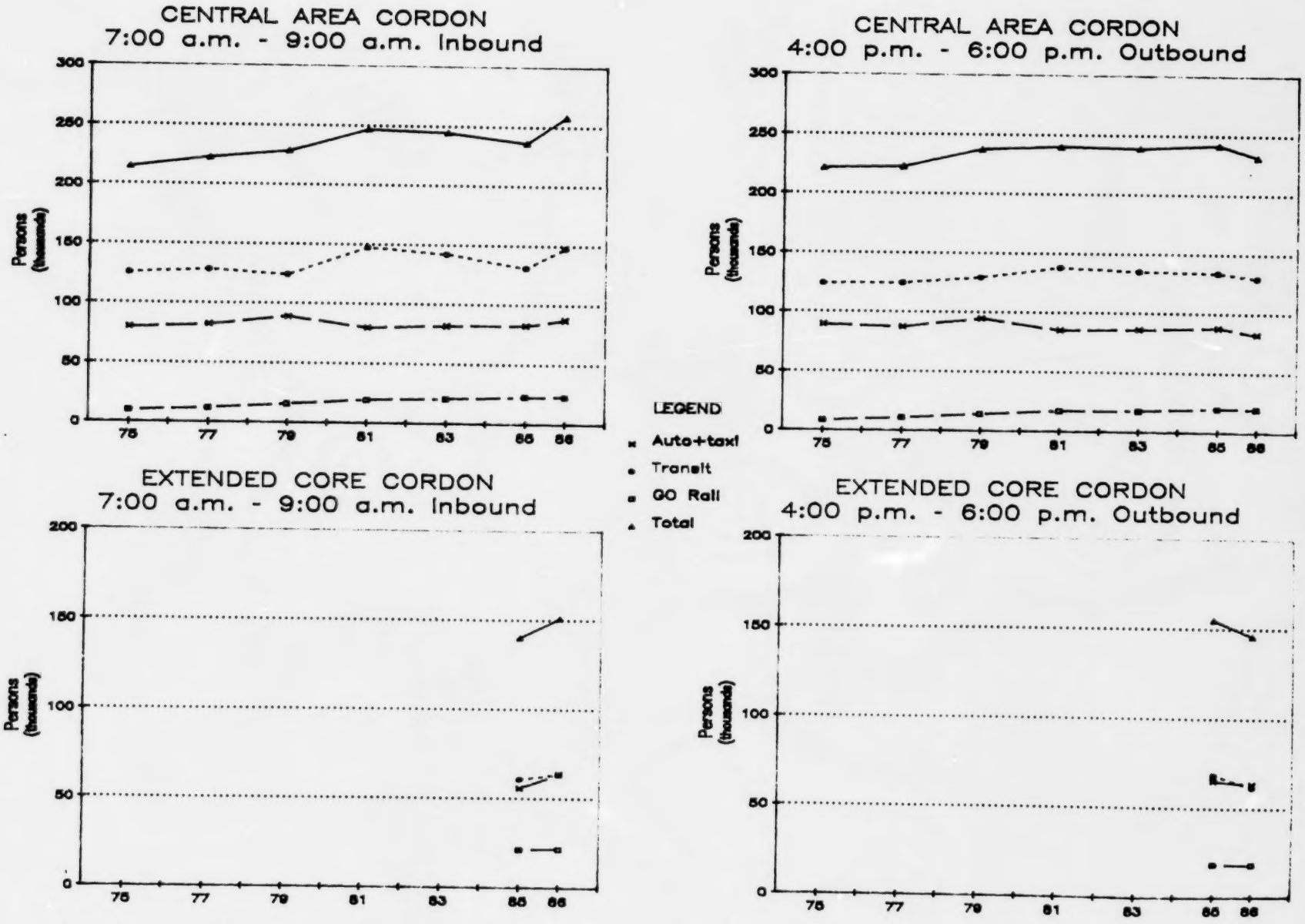



EXHIBIT 16: PEAK PERIOD PERSON TRIPS CROSSING CENTRAL AREA AND EXTENDED CORE CORDONS

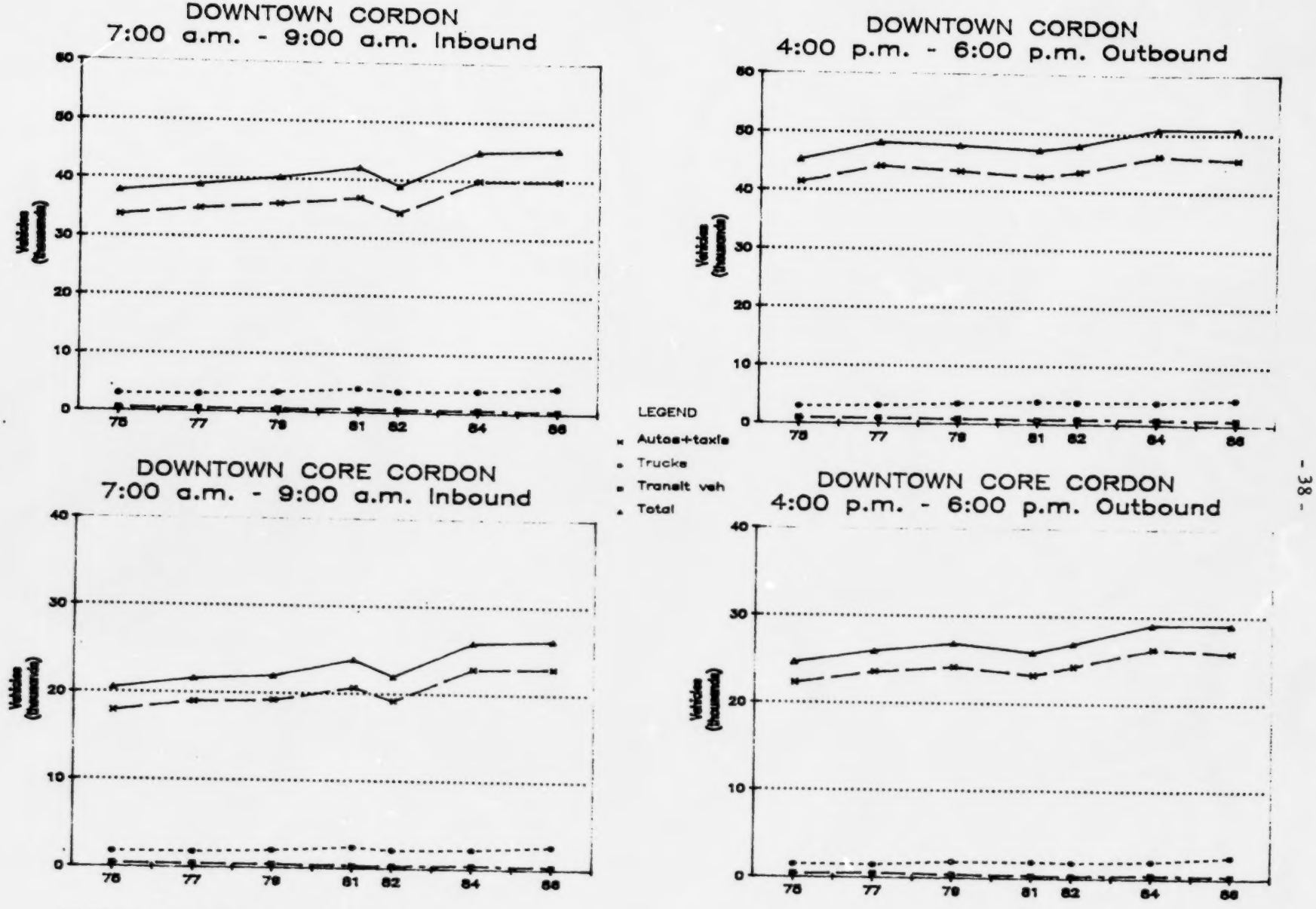



EXHIBIT 17: PEAK PERIOD VEHICLE TRIPS CROSSING DOWNTOWN AND DOWNTOWN CORE CORDONS

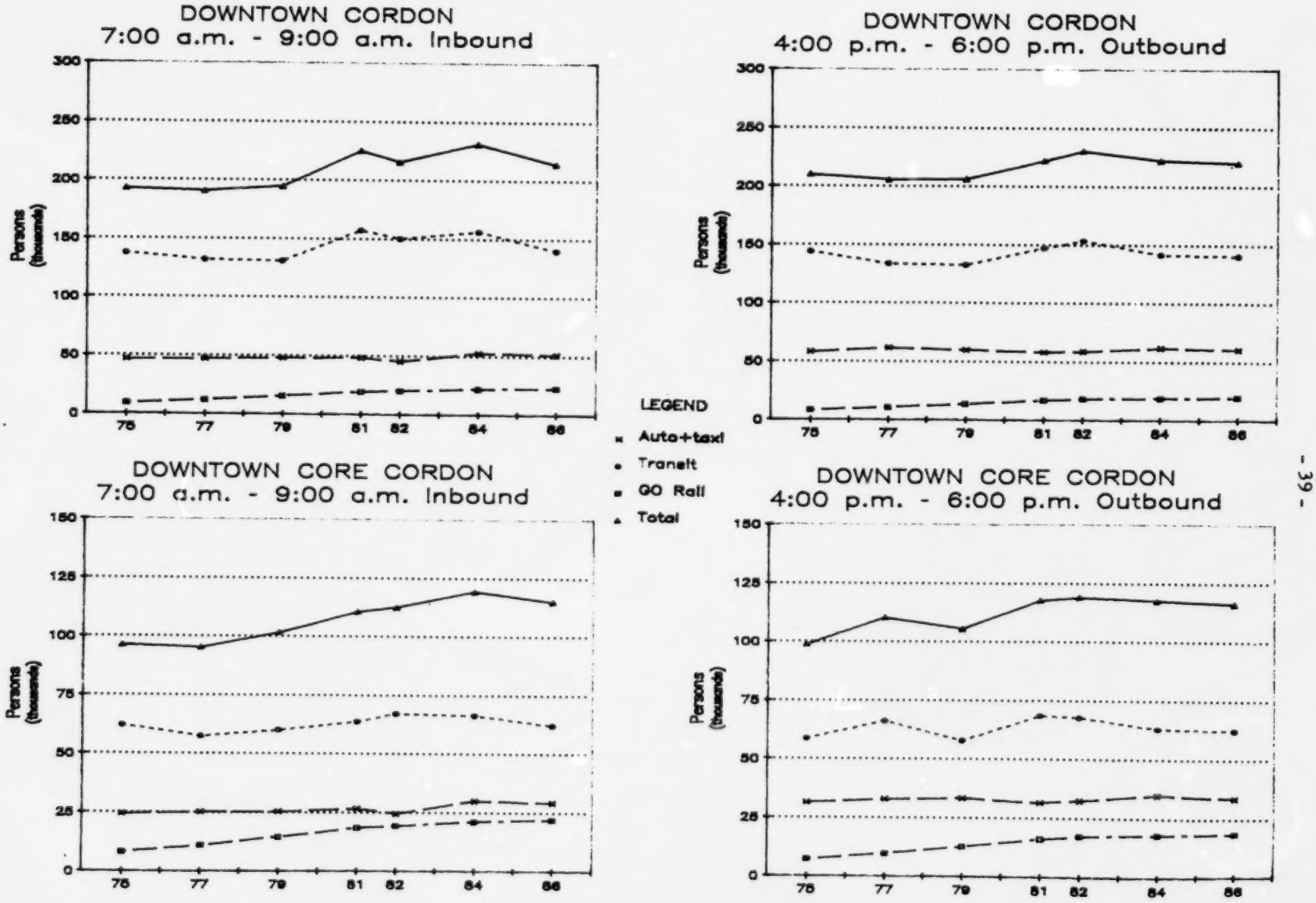



EXHIBIT 18: PEAK PERIOD PERSON TRIPS CROSSING DOWNTOWN AND DOWNTOWN CORE CORDONS

## Exhibit 19

### Average Auto Occupancy At Cordons

| Cordon | Inbound | | | Outbound | | |
|---|---|---|---|---|---|---|
| | 7:00 a.m.- 9:00 a.m. | 4:00 p.m.- 6:00 p.m. | 7:00 a.m.- 7:00 p.m. | 7:00 a.m.- 9:00 a.m. | 4:00 p.m.- 6:00 p.m. | 7:00 a.m. 7:00 p.m. |
| Central Area | | | | | | |
| 1975 | 1.36 | 1.35 | 1.34 | 1.20 | 1.39 | 1.33 |
| 1977 | 1.35 | 1.36 | 1.34 | 1.17 | 1.38 | 1.32 |
| 1979 | 1.38 | 1.33 | 1.35 | 1.18 | 1.41 | 1.32 |
| 1981 | 1.32 | 1.33 | 1.32 | 1.18 | 1.35 | 1.30 |
| 1983 | 1.32 | 1.31 | 1.32 | 1.17 | 1.35 | 1.30 |
| 1985* | 1.30 | 1.31 | 1.30 | 1.16 | 1.32 | 1.28 |
| Downtown Core | | | | | | |
| 1975 | 1.43 | 1.44 | 1.41 | 1.24 | 1.50 | 1.39 |
| 1977 | 1.40 | 1.44 | 1.40 | 1.24 | 1.50 | 1.39 |
| 1979 | 1.39 | 1.39 | 1.38 | 1.22 | 1.47 | 1.36 |
| 1981 | 1.35 | 1.34 | 1.37 | 1.23 | 1.44 | 1.36 |
| 1982 | 1.35 | 1.39 | 1.34 | 1.22 | 1.44 | 1.34 |
| 1984 | 1.37 | 1.38 | 1.37 | 1.20 | 1.41 | 1.33 |
| 1986 | 1.34 | 1.35 | 1.32 | 1.20 | 1.39 | 1.31 |
| Extended Core | | | | | | |
| 1985 | 1.28 | 1.33 | 1.32 | 1.18 | 1.32 | 1.28 |
| 1986 | 1.29 | 1.31 | 1.33 | 1.18 | 1.33 | 1.28 |

Note: Taxis excluded

* Vehicle occupancy was not recorded in 1986 at the Central Area Cordon; 1985 average occupancy was used to estimate passengers.

Source: Metro Cordon Count Program

3.4.2 Peak Point Subway Counts

The T.T.C. takes monthly one-day subway counts at key locations, and publishes annual summaries of the average of the three highest monthly counts. Exhibit 20 shows a.m. maximum hour peak direction information for 6 locations: Yonge and University lines south of Bloor Street; Yonge and Spadina lines north of Bloor Street, and the Bloor-Danforth line west of St. George and east of Yonge. The a.m. maximum hourly volume is almost always higher than the p.m. maximum hour due to the concentration of both work and school start times between 8:00 and 9:00 a.m.

In 1981, a.m. peak hour southbound ridership on the Yonge line south of Bloor Station, the peak load point on the subway system, reached a level in excess of of 35,000 passengers per hour (pph). Ridership dipped in 1982 and 1983, then rose and levelled off at 31,800 pph in 1986. The University line ridership peaked in 1980, declined slowly to 1984, then increased almost back to the 1980 peak level in 1986. Combined ridership on the two lines in 1986 was 56,300 pph, compared to 59,200 in 1981.

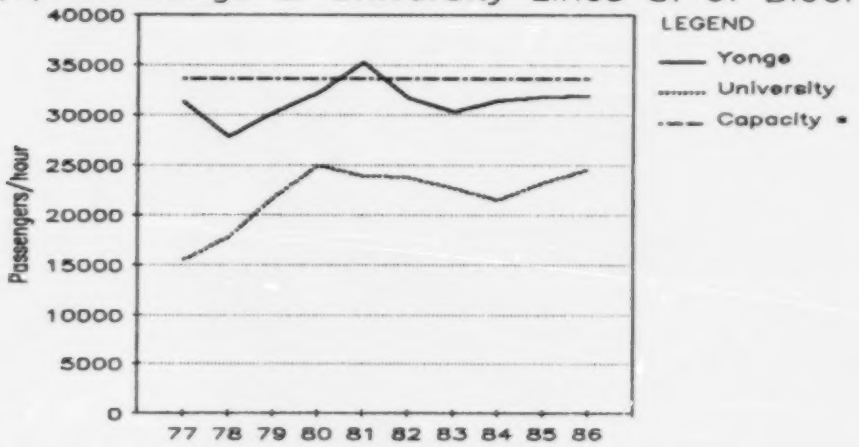
North of Bloor Street, the Yonge line a.m. maximum hour ridership peaked at 28,500 in 1980, and has since levelled off at just over 25,000 pph. The Spadina line diverted about 3,000 riders per hour from the Yonge line when it opened in 1978. Spadina line ridership north of Bloor Street in the a.m. peak hour climbed steadily to reach 15,000 pph in 1982, and has stayed fairly close to that level into 1986.

On the Bloor-Danforth line, the graph shows that inbound riders to Yonge Station (WB) and to St. George Station (EB) are fairly evenly balanced, with the ridership from the east slightly higher. In 1986, ridership stood at 26,000 pph from the east and 23,500 from the west; both are slightly below peak levels recorded in the period 1980 to 1982.

When the Yonge subway was initially designed, a maximum capacity of 40,000 passengers per hour per direction (pphpd) was quoted, based on

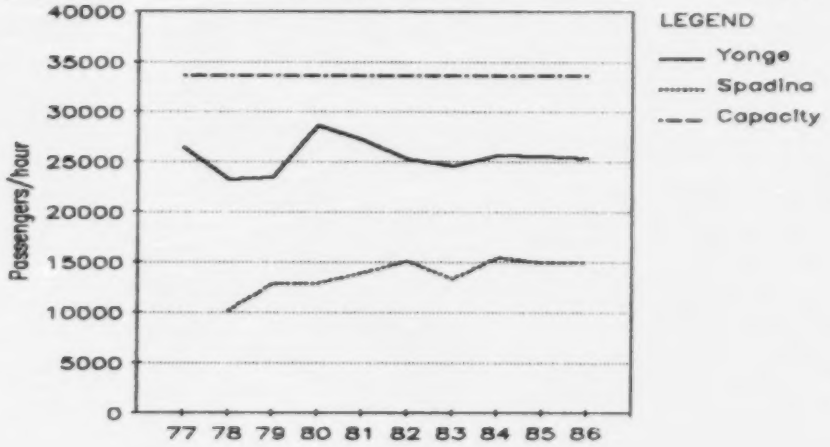
**EXHIBIT 20: AM PK HOUR SUBWAY COUNTS**

(a) SB Yonge & University Lines S. of Bloor

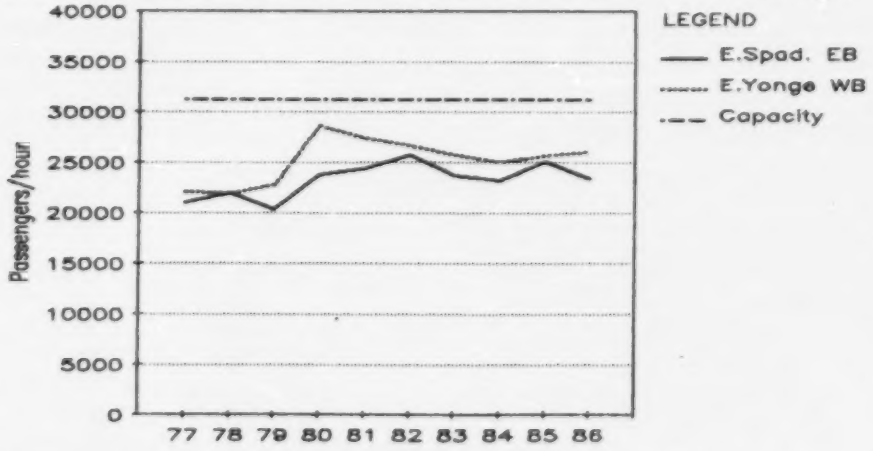



• Capacity based on existing (1986) service

(b) SB Yonge & Spadina Lines N. of Bloor




(c) Bloor Line E. of Spadina & E. of Yonge




Source: TTC (Average of 3 maximum monthly counts)

crush loaded trains operating at 2 minute headways. In light of operational constraints, more conservative capacity guidelines have since been adopted. The Downtown Rapid Transit Study Summary Report in 1985 quoted 34,000 pphpd as the upper limit of Level of Service "E", beyond which increased passenger congestion and train delays would result in an unacceptable degradation of service. The T.T.C. has adopted a loading standard of 1,200 persons per subway train. At the present peak period operating frequency of 28 trains per hour on the Yonge-University line, the capacity based on the loading standard is 33,600 pphpd. On the Bloor-Danforth line, with 26 trains in a peak hour, the corresponding capacity is 31,200 pphpd. These are the values shown as capacity in Exhibit 20.

The Bloor/Yonge station has been identified as the main bottleneck on the Yonge subway line. The minimum train headway in the peak hour is determined by the time taken to unload and reload with passengers at Bloor/Yonge station, due to the pedestrian congestion on the platforms and on board the trains. Under the existing physical constraints, attempts to add additional peak hour trains would probably result in increased train delays and queuing. On the Bloor-Danforth line, Bloor/Yonge is also the most crowded station, and St. George station handles large volumes of transfers to and from the Spadina/University line. Extra trains to provide service equivalent to that on the Yonge line could be added in the peak hour, if necessary, to meet increased demand.

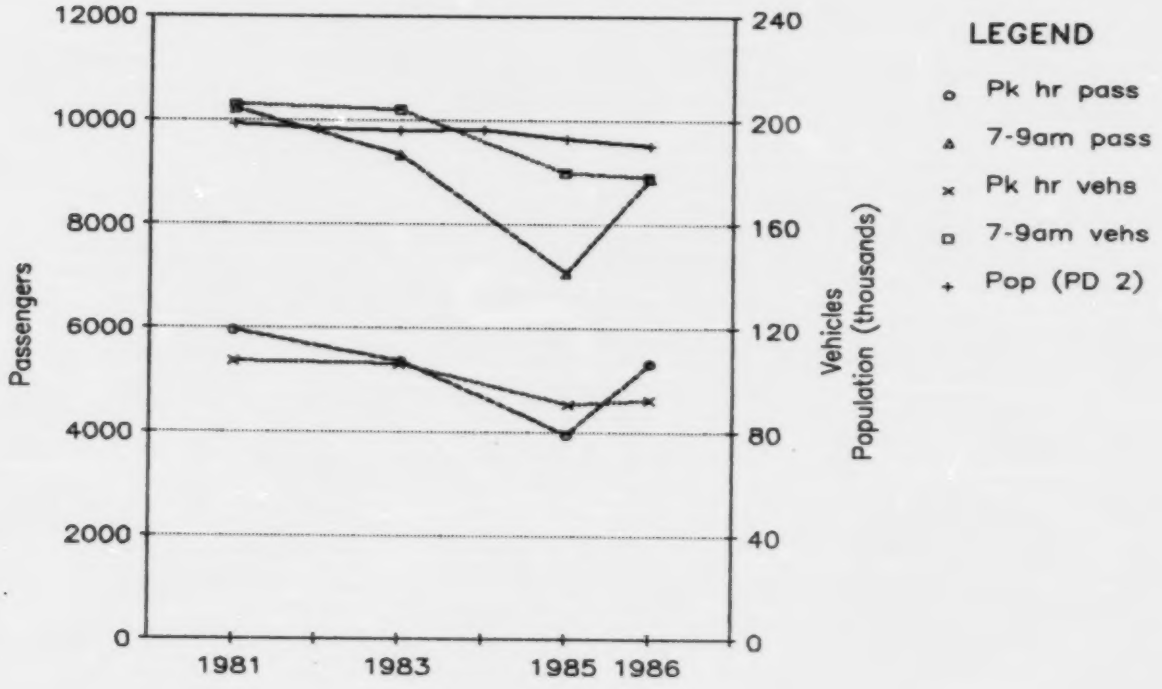
Even with planned improvements at Bloor/Yonge to improve passenger circulation, other existing constraints, particularly the signalling system and the track layout at terminal stations, preclude a reduction in headway below 2 minutes. As reported later, T.T.C. has proposed a major study into means of achieving headways below 2 minutes to accommodate further growth in travel demand on the Yonge-University-Spadina line.

The T.T.C. counts of usage of individual rapid transit stations will be analyzed in a future annual report.

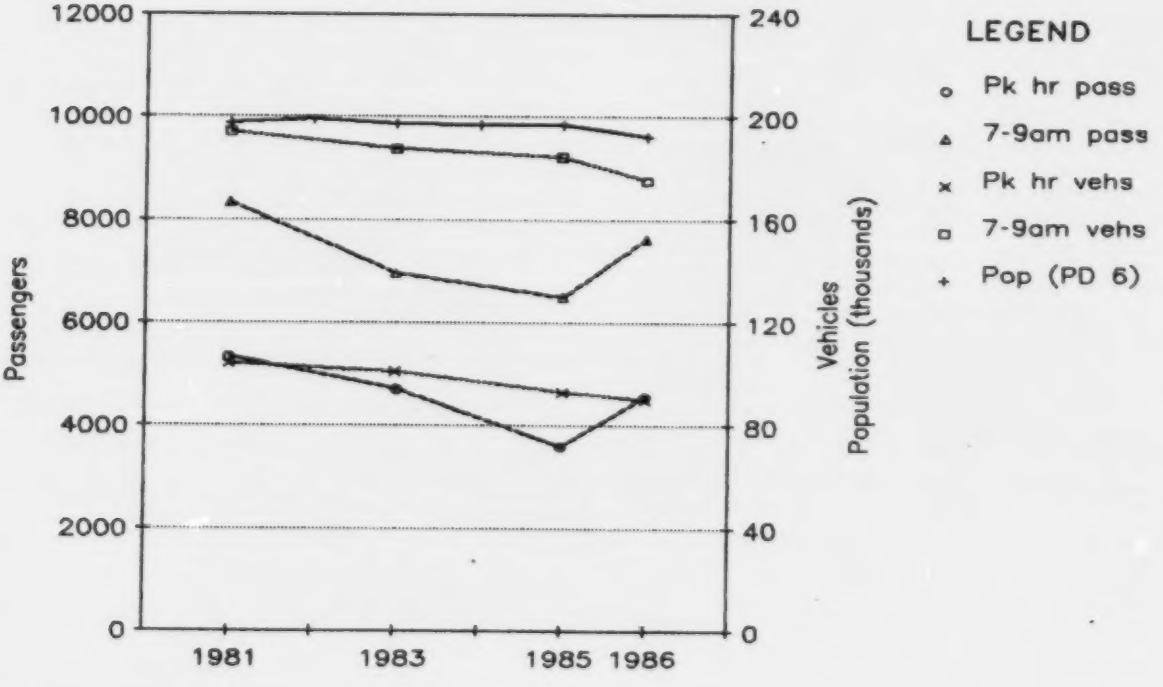
# EXHIBIT 21: STREETCAR RIDERSHIP TRENDS

A.M. Ridership, Vehicles and Catchment Area Population for Trips Into the Central Area

## (a) From the West




## (b) From the East




Source: Metro Cordon Count and Housing Data Base

3.4.3 Surface Transit

The Central Area is served by east-west streetcar lines on King, Queen, Dundas and College/Carlton Streets. Exhibit 21 summarizes a.m. peak streetcar riders and vehicles entering the Central Area between 1981, and 1986, from the Cordon Count. Also provided for comparison are the population figures for the Planning Districts located immediately to the west and east of the Central Area.

The two graphs show, using the left vertical axis, the 7:00 to 9:00 a.m. and maximum hour streetcar passengers entering the Central Area Cordon from the west and the east, and using the right vertical axis, the corresponding number of streetcar vehicles and the population of the adjoining Planning District expressed in thousands. Planning Districts 2 and 6 approximate the catchment areas of the routes from the west and east respectively. Between 1981 and 1986, the catchment area populations declined slightly, while the ridership and service provided showed a greater proportional decline. Total peak period inbound ridership decreased from 18,500 in 1981 to 13,500 in 1985, but recovered to 16,500 in 1986. Average passengers per vehicle also declined to 1985, but returned to 1981 levels in 1986.

The Wellesley, Davenport, Annette and Avenue Road buses bring about 1,200 to 1,400 riders into the Central Area Cordon in the a.m. peak hour. These routes have limited catchment areas; they serve mostly local trips and provide connections to the subway. Ridership has remained relatively stable. Other routes operate entirely within the Central Area, including Spadina, Bay, Church, Sherbourne, Parliament and Rosedale, and thus do not contribute directly to capacity across the cordon. Exhibit 22 shows existing transit routes serving the Central Area.

There appears to be limited opportunity to attract additional ridership into the Central Area by surface transit, unless a significant amount of new housing is built to the east and west of the Central Area, and/or transit priority measures can be implemented to improve speed and reliability of service.

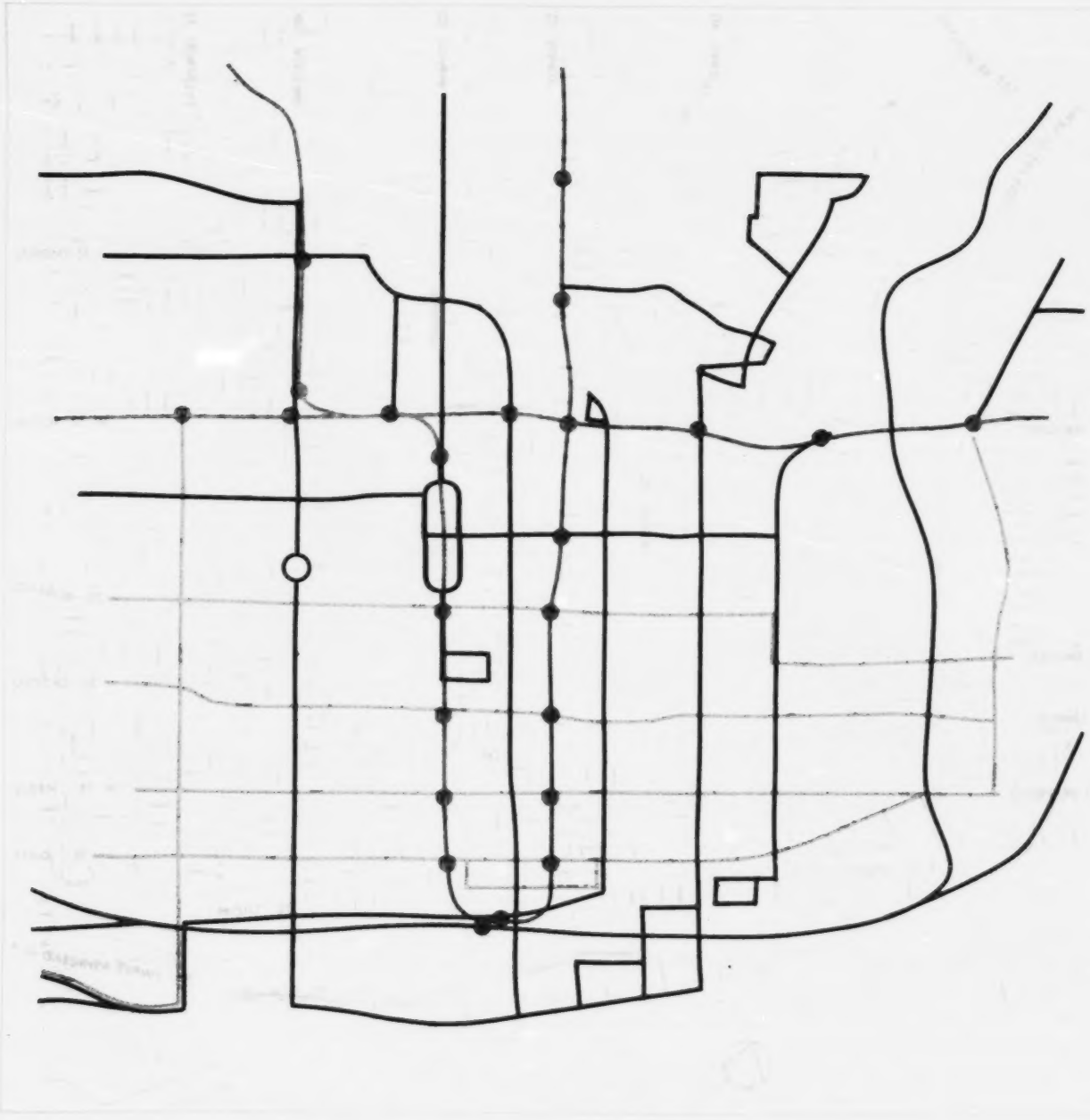



EXHIBIT 22 :
TRANSIT FACILITIES SERVING THE CENTRAL AREA

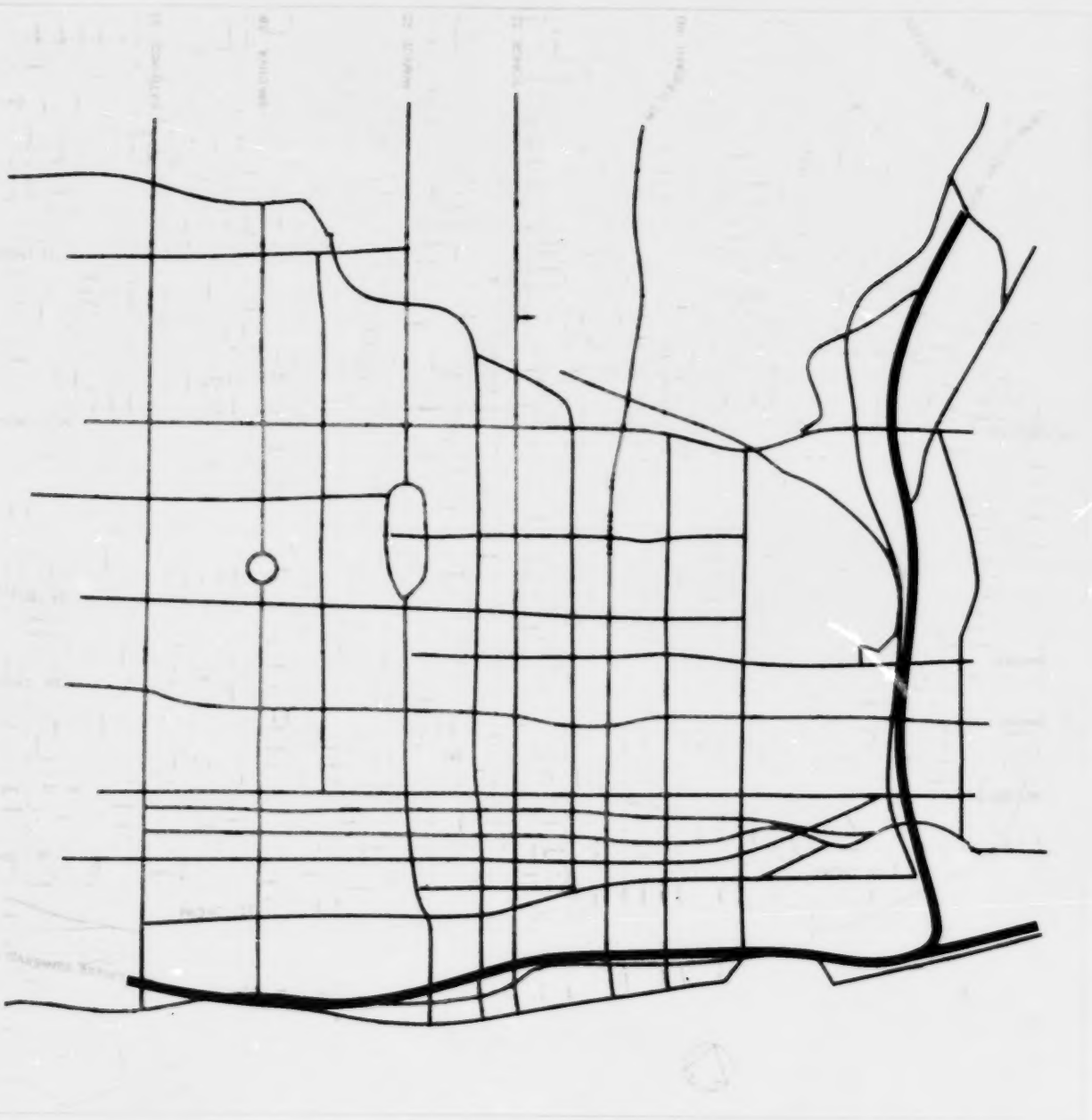
An earlier proposal was made by T.T.C. to relieve congestion on the Yonge line by operating an express bus on Sherbourne Street with reserved bus lanes. This has not been implemented to date, but could be if required, with minimum capital outlay. The proposed Spadina transit line also has potential for diverting some travel away from the Yonge and University subway lines south of Bloor Street. The latter is currently being reassessed as part of the Spadina Rapid Transit Alternatives Analysis with the assistance of a community-based consultative committee.

3.4.4 Road System

The Central Area is served by two Metropolitan expressways, which provide links to the regional freeway system maintained by the Province. The Gardiner Expressway connects with the Queen Elizabeth Way and Highways 427 and 401 to the west, and the Don Valley Parkway connects with Highways 401 and 404 to the northeast. Additional expressways to the Central Area from the northwest and the east were planned in the 1960's, but were never constructed.

Metropolitan Toronto is also served by a basically rectangular grid of arterial roads. In the older developed areas, including the Central Area, the grid is relatively dense, but the rights-of-way are generally narrower and some streets have streetcar tracks, thus precluding widening or the addition of exclusive turn lanes at most intersections to increase capacity. Higher capacity streets within the Central Area include University Avenue and Richmond and Adelaide Streets. Exhibit 23 shows the road system in the Central Area.

While the Gardiner Expressway and Don Valley Parkway provide the most convenient route to the Central Area for most off-peak trips by road from the outer areas of Metropolitan Toronto and the surrounding Regions, in peak periods these facilities have operated at, or close to, capacity for a number of years, with the result that a large proportion of traffic is forced to use arterial roads or to travel outside the peak period. Exhibit



Metropolitan Expressways
Metropolitan Arterials
City of Toronto Arterials

EXHIBIT 23 :
MAJOR ROAD FACILITIES SERVING THE CENTRAL AREA

24 shows the trends in all-day (7:00 a.m. to 7:00 p.m.) and peak hour Cordon Count volumes on the Gardiner Expressway and Don Valley Parkway from 1975 to 1985. The peak hour volumes fluctuate close to the capacity, while all-day trips show an upward trend. As the arterials have also become congested, through traffic has begun to use collectors and local residential streets. This has resulted in various schemes to exclude through traffic from residential areas, thus forcing the problem back onto the arterial roads. Arterial congestion also affects surface transit vehicles by increasing travel times, reducing the attractiveness of transit and increasing operating costs.

Within the Central Area itself, congestion on most arterial streets in the a.m. peak period (7:00-9:00 a.m.) is relatively light, except in the vicinity of expressway ramps; most of the bottlenecks are on the expressways and on the arterials outside of the Central Area. In the p.m. peak period (4:00 - 6:00 p.m.), congestion is more severe, as traffic encounters bottlenecks while attempting to leave the Central Area. During the peak periods, road capacity for traffic movement is maximized by parking and stopping prohibitions, turn restrictions and longer signal cycles with optimized progression. Outside of the peak periods, such measures are not in effect on many streets, reducing the overall road system capacity. In addition, high pedestrian volumes are a factor in many parts of the Central Area, as are truck traffic and on-street truck loading, resulting in widespread mid-day congestion. The lack of adequate off-street loading facilities was identified as a problem in the 1976 City of Toronto Parking and Loading Study, and led to zoning by-law changes. However, many older buildings still do not have adequate truck facilities.

Thus, the potential for accommodating additional auto travel demand by peak spreading through schemes such as staggered work hours, is limited unless the above-mentioned peak period traffic management measures are extended over a longer time period.

**Exhibit 24**

**Selected Volumes on Expressways**

| | 7a.m.-7p.m. Two-way | A.M. Peak Hour Inbound | P.M. Peak Hour Outbound |
|---|---|---|---|
| Gardiner Expressway at Bathurst Street | | | |
| 1975 | 89,480 | 5,212 | 6,043 |
| 1977 | 91,924 | 5,171 | 5,685 |
| 1979 | 96,454 | 5,201 | 6,845 |
| 1981 | 95,419 | 5,211 | 5,210 |
| 1983 | 104,008 | 5,935 | 5,898 |
| 1985 | 107,728 | 5,713 | 5,853 |
| 1986 | 113,733 | 5,713 | 4,892 |
| Don Valley Parkway at Taylor Creek | | | |
| 1975 | 83,237 | 5,129 | 5,032 |
| 1977 | 85,180 | 5,120 | 4,756 |
| 1979 | 90,451 | 5,164 | 4,549 |
| 1981 | 86,381 | 4,866 | 5,457 |
| 1983 | 98,098 | 5,756 | 4,969 |
| 1985 | 94,297 | 5,257 | 5,043 |

Source:

Metro Cordon Count Program

Transit priority measures, such as exclusive lanes and signal priority, are not in use in Metropolitan Toronto except in isolated locations. While such measures would tend to increase the attractiveness of transit and possibly reduce auto travel demand, they would also reduce road capacity, except in the case of additional lanes constructed exclusively for transit. Within the Central Area, there is little potential for adding peak period road capacity by road widening, intersection improvements or signal timing, although implementation of more one-way streets could improve traffic flow at the cost of some inconvenience to road and/or transit users. Improved enforcement of existing parking, standing, stopping, turning restrictions and tow-away zones would also aid traffic flow.

The next report in this series will address the performance of the road system in more detail, including consideration of capacity, level of service, travel speed and delay on individual facilities.

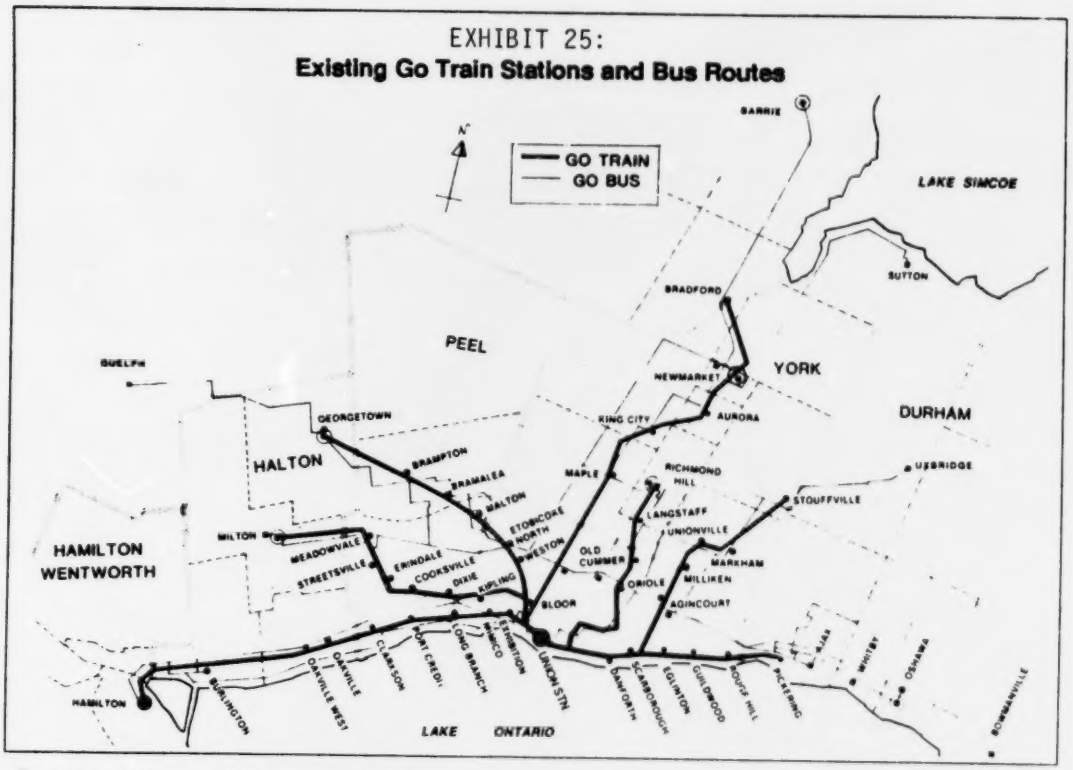
### 3.4.5 GO Transit

GO Transit rail lines radiate in seven directions from Union Station in downtown Toronto, and cater mainly to commuters living in the outer suburbs of Metropolitan Toronto and the surrounding Regions who work in the Central Area. Only the Lakeshore line (east and west) provides all-day service in both directions; the others provide only peak period, peak direction service.

GO buses extend service to locations not served by train. Most of these connect to suburban GO train stations or T.T.C. rapid transit stations; the policy is to discourage bus travel to downtown by charging a fare premium and limiting service, except on the Hamilton to Toronto express bus which brings approximately 1,500 passengers per day into the Central Area. Buses from Oshawa and Uxbridge bring only about 300 passengers per day into the Central Area. Exhibit 25 shows the existing GO rail and bus routes.

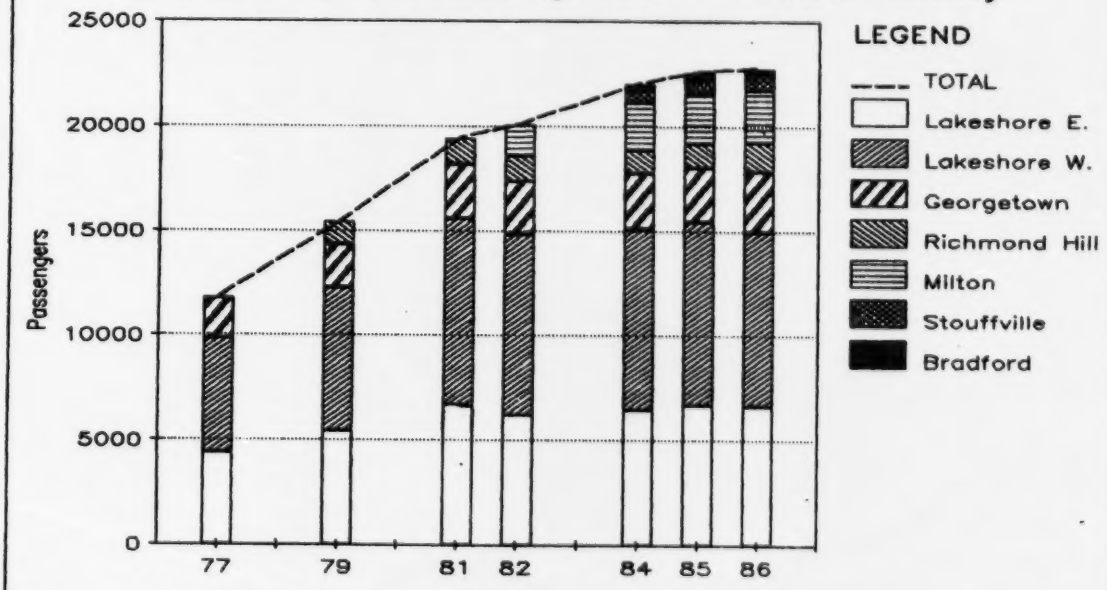
EXHIBIT 25:

**Existing Go Train Stations and Bus Routes**




Source: City of Toronto Quinquennial Review Background Paper No. 8

**EXHIBIT 26:**
**GO TRAIN PASSENGER ARRIVALS AT UNION STATION (7:00 - 9:00 A.M.)**




Source: GO Transit data for Metro Cordon Count

The Lakeshore rail line from Oakville to Pickering was inaugurated in 1967 with an hourly headway, reduced to 20 minutes in peak periods. As demand has grown, trains have been lengthened, higher capacity cars purchased, and extra trains have been added, particularly on the Lakeshore West. Other lines have been added to the system: Georgetown in 1974, Richmond Hill in 1978 and Milton in 1981. Each line began with three trains inbound in the morning and outbound in the evening; Georgetown was later increased to four trains, and there is a commitment to expand the Milton service to 5 trains in 1988. Lines to Bradford and Stouffville were taken over by GO from VIA Rail in 1982, and continue to operate with a single train in each peak period. Other VIA Rail services are not considered in this report, since their impact on peak periods is relatively minor.

The maximum size GO train operated (10 bi-level cars) provides 1,620 seats. GO Transit Rail Operations staff use a maximum crush load of 275 per car, although policy is to provide a seat for each passenger where possible. The trains operate under agreements with CN and CP Rail, and share tracks where necessary with freight or VIA Rail passenger trains.

Exhibit 26 shows the growth in a.m. peak period arrivals at Union Station by line from 1975 to 1986. Ridership showed a significant increase (65%) between 1977 and 1981, and a somewhat slower growth rate from 1981 to 1985, even with the addition of the Milton line. Up to 1982, the Bradford and Stouffville lines were operated by VIA, but they were not included in the Cordon Count. There was very little change in total passengers between 1985 and 1986.

Exhibit 27 tabulates for both the a.m. maximum hour and the a.m. peak period (7:00 to 9:00 a.m.) the number of trains, seating capacity and number of passengers arriving at Union Station for each line as recorded in May, 1986. Five trains on the Lakeshore line had ridership over 95% of the seating capacity, requiring some riders to stand. Ridership is always

## Exhibit 27

## A.M. Peak Hour and Peak Period GO Train

## Passenger Arrivals at Union, 1986

| | A.M. Peak Hour* | | | | 7:00-9:00 a.m. Peak Period | | | |
|---|---|---|---|---|---|---|---|---|
| Line | Trains | Seats | Passengers | % Load | Trains | Seats | Passengers | % Load |
| Lakeshore West | 5 | 7,096 | 6,630 | 93% | 7 | 9,690 | 8,320 | 86% |
| Lakeshore East | 3 | 4,370 | 3,950 | 90% | 6 | 7,610 | 6,670 | 84% |
| Georgetown | 3 | 2,950 | 2,370 | 80% | 4 | 3,760 | 2,870 | 76% |
| Richmond Hill | 2 | 1,300 | 970 | 75% | 3 | 1,940 | 1,370 | 70% |
| Milton | 3 | 3,440 | 2,490 | 72% | 3 | 3,440 | 2,490 | 72% |
| Bradford | 1 | 650 | 380 | 58% | 1 | 650 | 380 | 58% |
| Stouffville | 1 | 970 | 680 | 70% | 1 | 970 | 680 | 70% |
| Total | 19 | 20,776 | 17,470 | 84% | 25 | 28,064 | 22,780 | 81% |

*Note: Maximum hour calculated separately for each line.

Source: Metro Cordon Count Program

higher in the a.m. peak period than in the p.m. peak period (4:00 to 6:00 p.m.), as some commuters delay their return and/or use another mode of transport to return home.

Definition of the peak hour and of the maximum capacity of GO rail is less straightforward than for the subway, as trains run on wide and/or irregular headways, and train lengths vary according to demand patterns. The main limitations on available capacity include the maximum train length and the number of train movements that can be handled on the line and at Union Station. Only the Lakeshore West line is presently operating at a headway of less than 20 minutes. In October, 1986, two trains were added to the a.m. peak period schedule on this line, giving an average headway of 13 minutes over the 2-hour peak period, and 10 minutes in the peak hour. The latter is at or close to the minimum headway that can be achieved under present operating arrangements, and involves express skip-stop operation of alternate trains. However, if the operational and jurisdictional limitations could be overcome, it is possible that headways of 5 minutes or less could be achieved.

Significant potential ridership increases could be accommodated within the existing schedules if all trains were made up of 10 bi-level cars, and if moderate crowding with up to 50 standees per car were acceptable. (On the Richmond Hill, Bradford and Stouffville lines longer platforms would be required.) Up to double the existing ridership could be carried under these assumptions; however, this could not be realized in practice because the demand and potential capacity do not have the same orientation, and equal loading of all trains within a peak hour cannot be assured. A minimum lead time of 18 months is required for acquisition of new cars.

### 3.4.6 Parking

The amount of off-street parking in the Central Area has fluctuated since 1980, more or less in phase with the measured auto vehicle counts. From 1980 to 1982, according to the Off-Street Parking Inventory Survey of the City of Toronto, Department of Public Works, the supply of non-

residential off-street parking in an area corresponding to the Extended Core Cordon, declined by 2,200, from 35,540 to 33,240; in the Downtown Core it decreased by 1,320, from 21,090 to 19,770. This coincided with the economic recession and a period of high fuel prices. From 1982 to 1984, the number of spaces within the Extended Core increased by 19%, or 6,180, of which 3,450 were in the Core and 2,730 in the fringe area, mostly south of Front Street and west of Yonge Street in the Harbourfront area, including a 1,200 space garage. Between 1984 and 1986, parking spaces declined by about 300 in the Downtown Core, due mainly to temporary closure of the Toronto Parking Authority garage at Queen and Victoria Streets for reconstruction. The fringe area parking increased by a further 3,120, again mostly in the Harbourfront area. In summary, from 1980 to 1986, spaces in the Downtown Core increased by 1,800, and in the remainder of the Extended Core area by 5,000.

The supply and price of parking appears to be closely related to the demand. Apart from Toronto Parking Authority lots and garages, there is no municipal control over parking rates. Rates can vary widely within a small area; current daily rates in the Downtown Core vary between $5.00 and $12.00, although cheaper monthly rates are available. Many of the persons who commute to the Central Area by auto have their parking provided free or subsidized by their employer. Most short-term parking is accommodated on-street (both metered and illegal) during off-peak periods, and in lots which cater to short-term parkers.

## 3.5 Development and Transportation Proposals for the Central Area

### 3.5.1 Current Development Proposals

As reported in City of Toronto Quinquennial Review Background Report No.4, at January 1, 1986, 297 400 square metres of office space were under construction in the Central Area, and a further 885 250 square metres were in various stages of approval, from preliminary application to Council to building permits issued.

At the beginning of 1987, the Office Data Bank indicated that there were

307 750 square metres under construction and 914 000 square metres in the approval stages; Exhibit 28 lists the major developments with over 20 000 square metres of office floor space.

If it is assumed that the office space now under construction will come on to the market within 2 years, the average growth rate over this period would be approximately 150 000 square metres per year. It is not possible to predict when the development that has not yet received approval will begin or reach completion, or what applications will be made in the future, since many external factors are involved. Past experience shows that construction fluctuates considerably from year to year, depending on the state of the market. However, the total floor space presently under construction and in the approval stage is sufficient to maintain an annual average growth rate of 150 000 square metres for 8 years, somewhat higher than the average rate of absorption of new office space between 1981 and 1986.

3.5.2 Current Transportation Proposals

Since 1982, a number of major transportation proposals within or affecting the Central Area have been approved for further detailed study. These are summarized below:

(a) Road Proposals

- Front Street Extension: the proposal for the extension of Front Street west of Bathurst Street to connect with the Gardiner Expressway is undergoing feasibility and environmental studies; if approved, it will require an amendment to the Metropolitan Official Plan; estimated cost is $65 million.

- Gardiner Expressway Widening: the proposal to widen the roadway from 6 to 8 lanes between the Humber River and Strachan Avenue (where the Front Street extension would

**Exhibit 28**

**Major Central Area Office Developments**

**Under Construction and in Approval Stages**

**As Of January, 1987**

| | Address | Office Floor Space (Sq.m) |
|---|---|---|
| (a) | Under Construction | |
| | 40 King Street West (Scotia Plaza) | 131,200 |
| | 20 Bay Street (Water Park Place-Reed Stenhouse) | 39,000 |
| | 325 Front Street East | 34,400 |
| | 1 University Avenue | 22,700 |
| (b) | In Approval Stages | |
| | 575 Bay Street (Eaton Centre Phase III) | 124,800 |
| | 80 Queens Quay West (T.H.C.lands - 3 buildings @ 41,000) | 123,000 |
| | 20 Harbour Street | 106,600 |
| | 255 King Street West | 94,900 |
| | 444 Yonge Street (College Park Phase III) | 72,200 |
| | 151 Bay Street (B.C.E. Place- Canada Trust Tower) | 54,500* |
| | 60 Harbour Street | 42,700 |
| | 10 Bay Street (Water Park Place-Reed Stenhouse Phase II) | 35,800 |
| | 43 Gerrard Street East | 29,500 |
| | 20 Richmond Street East (Confederation Square) | 29,200 |
| | 40 College Street | 25,100 |
| | 655 Bay Street | 24,800 |
| | 649 Church Street | 23,500 |
| | 324 Front Street East | 22,300 |

* Applications were received in June, 1987 for 2 additional buildings in B.C.E. Place at 111,200 sq.m. each.

connect) is at the feasibility study stage; it may not require a Metropolitan Official Plan amendment if no additional right-of-way is required; current estimated cost is $100 million.

- Don Valley Corridor Improvements/Leslie Street Extension: as a result of the Don Valley Corridor Transportation Study undertaken by Metro and T.T.C. in 1983, a consultant was retained to conduct environmental and feasibility studies of the Leslie Street Extension and Bayview Avenue widening; the estimated cost of the Leslie Street Extension is approximately $74 million, including property costs; a Metropolitan Official Plan amendment will be required. Proposals to widen Don Mills Road and Victoria Park Avenue are also being studied; the option of widening the Don Valley Parkway is not being pursued at present.

The City of Toronto has endorsed the concept of the Front Street extension and Gardiner Expressway widening subject to design approval; however, the City has opposed the Leslie Street extension and has recommended that transit alternatives be studied and the possibility of increasing capacity on the Don Valley Parkway be retained as a potential option.

In addition to the above, a number of other projects designed to improve local traffic circulation in and adjacent to the Central Area have been proposed. These include:

- modification to the Gardiner/Lake Shore ramp system in the Central Area (proposed by the City of Toronto);
- new local road system for the Railway Lands, including widening of the Spadina Avenue bridge and extension of Simcoe Street;
- widening of Bay Street and York Street south of Front Street; and

- Dufferin Street extension to Lake Shore Boulevard and jog elimination at Queen Street.

(b) Transit Proposals

- Harbourfront LRT: this line, to serve the Harbourfront and Railway Lands developments, has been approved by Metropolitan and City Councils; design details are still to be finalized, and the estimated cost is $50 million.

- Spadina Transit line: this light rail line, to replace the frequent bus service on Spadina Avenue, and to provide improved access to Harbourfront and the Railway Lands in conjunction with the Harbourfront LRT, is now being reassessed as part of the Spadina Rapid Transit Alternatives Analysis with the assistance of a consultative committee which has been established to provide community input; estimated cost is $40 million.

- Downtown Relief Line: this line was identified as a possible future option in "Network 2011", and has been endorsed as such by Metropolitan and City Councils; the need and priority for this line and others will be reviewed in 1991, and at further 5-year intervals as required; at present, a Metropolitan Official Plan amendment has been approved by Council to designate the Sheppard and Eglinton lines as future rapid transit facilities, but not the Downtown Relief line (estimated cost $550 million).

(c) GO Rail Expansion:

The Province is committed to incremental upgrading and expansion of the existing GO commuter rail system; in October, 1986, two morning trains and one evening train were added to the Lakeshore West peak period schedule, and there is a commitment to expand the

Milton service from 3 to 5 trains each way per day by 1988; expansion of the Richmond Hill and Georgetown lines has been studied; full Lakeshore GO service is to be extended to Whitby and Burlington by 1990, and eventually to Oshawa and Hamilton. GO presently has 63 new cars on order to accommodate the Milton and Lakeshore expansion.

(d) GO/T.T.C. Fare and Service Integration

Fare and service integration between GO and local transit has been implemented in several municipalities outside Metro, whereby GO passengers get a free or reduced-fare ride by local transit to and from the GO train station. The Province has announced a study of fare and service integration within Metro. This would enable a trip-maker to take a T.T.C. route at the beginning and/or end of a GO train trip, without paying the full T.T.C. fare in addition to the GO fare. This could have the effect of reducing auto travel to the Central Area by providing a lower cost alternative, and could also divert downtown travel from subway to GO, helping to relieve congestion on the Yonge line and at the Bloor/Yonge station, but potentially adding to pedestrian congestion at Union.

Among other transit projects, T.T.C. has approved an $11.4 million 3-year program to improve passenger safety and comfort at the Bloor/Yonge interchange by widening platforms and circulation areas, and providing additional entrances. Further improvements to Union GO and T.T.C. stations are under consideration, including expansion of the pedestrian links under Front Street, in connection with the Harbourfront LRT loop and the B.C.E. Place development on the east side of Bay Street. T.T.C. has also initiated a major study of means to further reduce the headway on the Yonge subway through upgrading of the signal system and modification of a number of stations in addition to Bloor/Yonge.

# 4.0 CONCLUSIONS

## 4.1 General

The Central Area Monitoring Program is a major co-operative monitoring effort involving both planning and operating agencies at the City, Metropolitan and Provincial levels. As such, the first year of the program can be regarded as a success. It has led to improved co-ordination of cordon count programs between the City, Metro and T.T.C., and is an important step towards co-ordination of transportation and land use data collection programs for the Central Area. Potential improvements and additions to both the transportation and land use programs have been identified. The major objectives of the Program are to facilitate a better understanding of the relationship between land use and transportation requirements, and to assist in identifying the need and timing for transportation improvements required to accommodate new development.

## 4.2 Synopsis of Findings

Between 1981 and 1986, the net amount of occupied office space in the Central Area increased by 613,000 square metres. Over the same time period, according to the Metro Employment Survey, full-time office employment increased by 14,000 jobs. Institutional full-time employment also increased, but the manufacturing/wholesale, retail and service categories decreased. Total full-time employment actually fell by 7,700 between 1981 and 1983, then increased by 15,500 to 1986, giving a net increase of 7,800 from 1981 to 1986. Part-time employment data was not available until 1983; between 1983 and 1986, part-time jobs in the Central Area increased by 17,000, from 8.2% to 12.2% of total employment. The part-time increase was shared by all job sectors.

During the 5 year period from 1981 to 1986, the Central Area population increased by by about 8,000, resulting in an estimated increase in the labour force of 4,600, based on the 1981 Census labour force

participation rate. With approximately 68% of the Central Area labour force working in the Central Area, this has had a dampening effect on the growth of in-commuting that would otherwise have occurred.

Cordon count information shows that total person trips entering the Central Area increased by about 11,500 in the 7:00 - 9:00 a.m. peak period between 1981 and 1986; total person trips exiting the Central Area actually decreased by about 8,500 in the 4:00 - 6:00 p.m. peak period. For total transit trips, the counts show a.m. peak period ridership now returning to peak levels observed in 1981, but p.m. peak period ridership continuing to decline. For GO Rail passenger trips, moderate but steady increases have been observed for both peak periods up to 1985, levelling off in 1986.

Auto person trips in the a.m. peak period have increased by about 7,500, while in the p.m. peak period a decrease of about 2,500 auto person trips has been observed between 1981 and 1986. Auto vehicle trips in the a.m. peak period have increased steadily from 1981, and in 1986 surpassed the previous high level observed in 1979. In the p.m. peak period, auto vehicle counts have generally increased since 1981 but decreased in 1986 from the 1985 level which had equalled the previous high count, also measured in 1979. The decreases in the p.m. peak in 1986 appear somewhat anomalous, and will be reassessed in the light of the 1987 counts. Total person trips entering and leaving the Central Area between 7:00 a.m. and 7:00 p.m. have shown a steady increase from year to year, with some fluctuation between modes.

Individual counts and general observations reveal peak period congestion bottlenecks on a number of major transportation facilities feeding the Central Area, notably the Yonge subway south of Bloor Street, the Gardiner Expressway west of Spadina Avenue and the Don Valley Parkway north of Bloor Street. At these locations, peak hour counts have remained at or close to capacity for a number of years, while all-day volumes have continued to increase. Congestion is also a factor on the arterial grid, but it has not been quantified in this report.

## 4.3 Assessment of the 1986 Program

Of the data collection exercises undertaken in 1986 in connection with the Central Area Monitoring Program, the increased coverage of the Metro Employment Survey showed a significant improvement in accuracy; analysis of the 100% survey revealed that approximately 6,000 employees would have been missed under the normal procedure in which most business establishments are surveyed only every two years. However, this made comparison with previous years more difficult. The 100% survey was repeated in 1987, with Provincial subsidy, and has been recommended for continuation in future years.

The City of Toronto attendance or "elevator" survey appears to have limited usefulness for relating trip arrival rates to employment, because of the difficulty in distinguishing visitors from employees. In a modified form, this type of survey could be useful for monitoring total trip generation rates of different types of buildings.

The 1986 survey of Central Area residents undertaken for the City of Toronto has the potential for providing valuable travel data, but the results were not available in time for this report. Results of this survey will be summarized in the 1987 Central Area Monitoring Program report, planned for completion by Spring, 1988.

## 4.4 Proposed Improvements to the Program

One improvement identified is the collection of data to facilitate estimation of the amount of through travel on road and transit facilities in the Central Area. Some counts of downtown expressway ramps are already undertaken by the T.T.C.; the need for additional counts will be identified, and the 1988 data collection program will be modified where appropriate. Through travel affects the transportation capacity for trips originating in or destined to a cordon, and is a key factor in trying to understand the relationship between transportation flows and land use factors such as employment and population.

Another data collection improvement would be the addition of vehicle occupancy counts for the Central Area Cordon in even years (1988, etc.). Person trips for 1986 were estimated by applying occupancy factors observed in the previous year and since occupancy factors are actually declining over time, the 1986 person trips crossing the Central Area by auto may be slightly overestimated. This matter will be investigated further once the 1987 counts are available.

A proposed addition to the analysis of available data is the study of performance measures for the road facilities serving the Central Area. This will require detailed investigation of the cordon counts by facility, and the assessment of peak hour capacities, levels of service, travel speeds and delays, with the assistance of the operating departments and the T.T.C. It is planned to cover this topic in the 1987 report along with the identification of specific traffic bottlenecks.

Another topic which will require additional analysis is the phenomenon of "peak spreading", or how much travel growth is occurring in the shoulders of the peak periods due to lack of available capacity in the peak periods.

## 4.5 Additional Data Sources for Future Reports

In 1987, Metropolitan Planning staff in conjunction with the annual Metro Employment survey, undertook a survey of the travel habits of part-time employees in the Central Area. The results of this survey will be included in the 1987 Central Area Monitoring Program report.

Two major surveys will provide extensive new data in time for the 1988 report. The 1986 Census place of work survey for Metropolitan Toronto will be coded in 1988 and will provide key information on home/work linkages for Central Area residents and employees. The Transportation Tomorrow Survey, for which editing, verification and expansion will also be completed in 1988, will provide extensive data on

trip generation, origin-destination distribution and mode split by purpose, particularly for commuter rail trips for which no comprehensive background data presently exists.

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# APPENDIX

## LAND USE AND CORDON COUNT TABLES

## EXHIBIT A.1: EMPLOYMENT BY TYPE, FOUR CORDONS

| | FULL-TIME EMPLOYMENT | | | | | | | TOTAL EMPLOYMENT | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | OFFICE | MANUF | INSTIT | RETAIL | SERVCE | OTHER | TOTAL | OFFICE | MANUF | INSTIT | RETAIL | SERVCE | OTHER | TOTAL |
| (1) CENTRAL AREA CORDON | | | | | | | | | | | | | | |
| 1981 | 193,579 | 21,029 | 33,670 | 22,726 | 28,351 | 4,083 | 303,438 | | | | | | | |
| 1982 | 190,763 | 19,053 | 33,518 | 21,001 | 26,304 | 3,865 | 294,504 | | | | | | | |
| 1983 | 193,705 | 18,690 | 33,855 | 20,688 | 24,629 | 4,161 | 295,728 | 199,851 | 19,898 | 38,612 | 27,320 | 30,206 | 6,347 | 322,234 |
| 1984 | 201,574 | 18,022 | 34,330 | 18,411 | 24,771 | 4,932 | 302,040 | 208,468 | 19,296 | 39,795 | 26,215 | 31,653 | 7,544 | 332,971 |
| 1985 | 201,319 | 18,501 | 35,268 | 18,587 | 24,949 | 5,076 | 303,700 | 210,614 | 19,742 | 40,472 | 26,634 | 32,443 | 9,013 | 338,918 |
| 1986 | 207,343 | 16,876 | 37,183 | 18,607 | 26,575 | 4,694 | 311,278 | 219,401 | 18,510 | 44,830 | 27,783 | 35,141 | 9,120 | 354,785 |
| (2) DOWNTOWN CORE CORDON | | | | | | | | | | | | | | |
| 1981 | 93,820 | 1,445 | 2,523 | 8,521 | 8,820 | 1,011 | 116,140 | | | | | | | |
| 1982 | 92,369 | 1,181 | 2,459 | 7,648 | 8,656 | 1,293 | 113,606 | | | | | | | |
| 1983 | 93,337 | 895 | 2,855 | 8,115 | 7,662 | 1,275 | 114,139 | 95,795 | 951 | 3,415 | 12,139 | 9,750 | 1,556 | 123,606 |
| 1984 | 100,741 | 721 | 2,593 | 5,837 | 7,716 | 870 | 118,478 | 103,045 | 785 | 3,073 | 10,216 | 10,169 | 1,365 | 128,653 |
| 1985 | 97,573 | 949 | 2,036 | 5,692 | 7,412 | 1,158 | 114,820 | 100,785 | 1,032 | 2,952 | 9,999 | 10,220 | 1,912 | 126,900 |
| 1986 | 99,164 | 927 | 2,604 | 5,861 | 7,408 | 1,247 | 117,211 | 102,807 | 1,087 | 3,250 | 10,645 | 10,449 | 1,941 | 130,179 |
| (3) EXTENDED CORE CORDON | | | | | | | | | | | | | | |
| 1981 | 110,983 | 3,410 | 3,304 | 9,055 | 11,439 | 1,304 | 139,495 | | | | | | | |
| 1982 | 107,649 | 2,689 | 3,257 | 8,192 | 10,498 | 1,459 | 133,744 | | | | | | | |
| 1983 | 107,635 | 2,622 | 3,617 | 8,563 | 9,600 | 1,980 | 134,017 | 110,286 | 2,796 | 4,195 | 12,684 | 12,333 | 2,365 | 144,659 |
| 1984 | 116,129 | 2,336 | 3,469 | 6,565 | 10,131 | 1,723 | 140,353 | 118,817 | 2,516 | 4,002 | 11,150 | 13,329 | 2,330 | 152,144 |
| 1985 | 113,413 | 2,670 | 3,015 | 6,502 | 10,082 | 2,554 | 138,236 | 117,096 | 2,881 | 3,990 | 11,073 | 13,631 | 3,683 | 152,354 |
| 1986 | 114,976 | 2,363 | 3,611 | 6,532 | 10,117 | 2,212 | 139,811 | 119,866 | 2,656 | 4,345 | 11,690 | 14,031 | 3,319 | 155,907 |
| (4) DOWNTOWN CORDON | | | | | | | | | | | | | | |
| 1981 | 141,107 | 1,955 | 13,655 | 15,262 | 18,320 | 2,281 | 192,580 | | | | | | | |
| 1982 | 141,589 | 1,870 | 14,759 | 13,722 | 17,093 | 2,102 | 191,135 | | | | | | | |
| 1983 | 142,470 | 1,934 | 15,176 | 13,769 | 15,229 | 2,022 | 190,600 | 146,319 | 2,768 | 17,373 | 19,089 | 18,896 | 3,828 | 208,273 |
| 1984 | 150,559 | 1,566 | 14,550 | 10,812 | 15,348 | 2,294 | 195,129 | 154,915 | 2,420 | 16,792 | 17,054 | 19,899 | 4,361 | 215,441 |
| 1985 | 147,446 | 1,805 | 15,210 | 10,792 | 15,040 | 2,124 | 192,417 | 153,422 | 2,676 | 18,120 | 17,128 | 20,055 | 5,088 | 216,489 |
| 1986 | 152,864 | 1,872 | 16,896 | 11,147 | 15,454 | 2,002 | 200,235 | 160,524 | 2,872 | 20,629 | 18,241 | 21,047 | 5,200 | 228,513 |

## EXHIBIT A.2:
## VEHICLE TRIPS CROSSING CENTRAL AREA CORDON

| | 7:00 A.M. - 9:00 A.M. A.M. Peak Period - Inbound | | | | | | | 4:00 P.M. - 6:00 P.M. P.M. Peak Period - Outbound | | | | | | | 7:00 A.M. - 7:00 P.M. Two-way Totals | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total Vehicles | Autos & Taxis Number | Autos & Taxis % | Trucks Number | Trucks % | Transit Veh. Number | Transit Veh. % | Total Vehicles | Autos & Taxis Number | Autos & Taxis % | Trucks Number | Trucks % | Transit Veh. Number | Transit Veh. % | Total Vehicles | Autos & Taxis Number | Autos & Taxis % | Trucks Number | Trucks % | Transit Veh. Number | Transit Veh. % |
| West | | | | | | | | | | | | | | | | | | | | | |
| 1975 | 23,552 | 20,884 | 88.7% | 2,314 | 9.8% | 354 | 1.5% | 27,211 | 24,711 | 90.8% | 2,144 | 7.9% | 356 | 1.3% | 207,883 | 174,172 | 83.8% | 30,596 | 14.7% | 3,115 | 1.5% |
| 1977 | 25,225 | 22,278 | 88.3% | 2,608 | 10.3% | 339 | 1.3% | 26,770 | 24,189 | 90.4% | 2,245 | 8.4% | 336 | 1.3% | 210,503 | 176,622 | 83.9% | 30,806 | 14.6% | 3,075 | 1.5% |
| 1979 | 25,832 | 22,736 | 88.0% | 2,763 | 10.7% | 333 | 1.3% | 29,155 | 26,154 | 89.7% | 2,667 | 9.1% | 334 | 1.1% | 218,853 | 181,852 | 83.1% | 33,913 | 15.5% | 3,088 | 1.4% |
| 1981 | 24,715 | 21,482 | 86.9% | 2,887 | 11.7% | 346 | 1.4% | 25,114 | 22,130 | 88.1% | 2,652 | 10.6% | 332 | 1.3% | 215,578 | 177,655 | 82.4% | 34,724 | 16.1% | 3,199 | 1.5% |
| 1983 | 26,599 | 23,466 | 88.2% | 2,779 | 10.4% | 354 | 1.3% | 26,670 | 23,743 | 89.0% | 2,608 | 9.8% | 319 | 1.2% | 226,595 | 190,434 | 84.0% | 33,058 | 14.6% | 3,103 | 1.4% |
| 1985 | 28,494 | 25,057 | 87.9% | 3,111 | 10.9% | 326 | 1.1% | 28,323 | 25,121 | 88.7% | 2,896 | 10.2% | 306 | 1.1% | 237,802 | 198,479 | 83.5% | 36,134 | 15.2% | 3,189 | 1.3% |
| 1986 | 27,379 | 24,325 | 88.8% | 2,732 | 10.0% | 322 | 1.2% | 26,206 | 23,215 | 88.6% | 2,709 | 10.3% | 279 | 1.1% | 233,062 | 196,721 | 84.4% | 33,165 | 14.2% | 3,176 | 1.4% |
| North | | | | | | | | | | | | | | | | | | | | | |
| 1975 | 12,179 | 11,426 | 93.8% | 665 | 5.5% | 88 | 0.7% | 14,557 | 13,789 | 94.7% | 673 | 4.6% | 95 | 0.7% | 104,904 | 95,490 | 91.0% | 8,824 | 8.4% | 590 | 0.6% |
| 1977 | 13,570 | 12,570 | 92.6% | 877 | 6.5% | 123 | 0.9% | 15,307 | 14,375 | 93.9% | 818 | 5.3% | 114 | 0.7% | 114,100 | 102,680 | 90.0% | 10,404 | 9.1% | 1,016 | 0.9% |
| 1979 | 12,964 | 11,847 | 91.4% | 1,024 | 7.9% | 93 | 0.7% | 14,992 | 13,846 | 92.4% | 1,066 | 7.1% | 80 | 0.5% | 113,815 | 100,973 | 88.7% | 12,109 | 10.6% | 733 | 0.6% |
| 1981 | 13,436 | 12,332 | 91.8% | 1,014 | 7.5% | 90 | 0.7% | 15,590 | 14,474 | 92.8% | 1,035 | 6.6% | 81 | 0.5% | 116,179 | 103,353 | 89.0% | 11,963 | 10.3% | 863 | 0.7% |
| 1983 | 13,333 | 12,246 | 91.8% | 993 | 7.4% | 94 | 0.7% | 15,232 | 14,074 | 92.4% | 1,089 | 7.1% | 69 | 0.5% | 119,024 | 106,247 | 89.3% | 11,944 | 10.0% | 833 | 0.7% |
| 1985 | 13,763 | 12,657 | 92.0% | 1,019 | 7.4% | 87 | 0.6% | 15,604 | 14,433 | 92.5% | 1,093 | 7.0% | 78 | 0.5% | 122,198 | 108,804 | 89.0% | 12,627 | 10.3% | 767 | 0.6% |
| 1986 | 14,444 | 13,355 | 92.5% | 1,029 | 7.1% | 60 | 0.4% | 14,519 | 13,341 | 91.9% | 1,097 | 7.6% | 81 | 0.6% | 117,412 | 105,941 | 90.2% | 10,721 | 9.1% | 750 | 0.6% |
| East | | | | | | | | | | | | | | | | | | | | | |
| 1975 | 30,092 | 26,880 | 89.3% | 2,952 | 9.8% | 260 | 0.9% | 28,968 | 26,376 | 91.1% | 2,327 | 8.0% | 265 | 0.9% | 209,537 | 174,397 | 83.2% | 32,571 | 15.5% | 2,569 | 1.2% |
| 1977 | 30,037 | 26,740 | 89.0% | 3,040 | 10.1% | 257 | 0.9% | 28,325 | 25,414 | 89.7% | 2,660 | 9.4% | 251 | 0.9% | 215,700 | 180,256 | 83.6% | 32,963 | 15.3% | 2,481 | 1.2% |
| 1979 | 34,178 | 30,420 | 89.0% | 3,509 | 10.3% | 249 | 0.7% | 30,439 | 27,279 | 89.6% | 2,922 | 9.6% | 238 | 0.8% | 230,564 | 191,869 | 83.2% | 36,353 | 15.8% | 2,342 | 1.0% |
| 1981 | 31,264 | 27,415 | 87.7% | 3,546 | 11.3% | 303 | 1.0% | 30,605 | 27,362 | 89.4% | 2,974 | 9.7% | 269 | 0.9% | 225,159 | 186,278 | 82.7% | 36,187 | 16.1% | 2,694 | 1.2% |
| 1983 | 30,853 | 27,080 | 87.8% | 3,453 | 11.2% | 320 | 1.0% | 29,922 | 26,761 | 89.4% | 2,872 | 9.6% | 289 | 1.0% | 234,689 | 195,625 | 83.4% | 36,218 | 15.4% | 2,846 | 1.2% |
| 1985 | 30,877 | 26,824 | 86.9% | 3,750 | 12.1% | 303 | 1.0% | 31,150 | 27,695 | 88.9% | 3,179 | 10.2% | 276 | 0.9% | 240,074 | 199,144 | 83.0% | 38,219 | 15.9% | 2,711 | 1.1% |
| 1986 | 34,467 | 30,706 | 89.1% | 3,444 | 10.0% | 317 | 0.9% | 29,474 | 26,414 | 89.6% | 2,749 | 9.3% | 311 | 1.1% | 245,645 | 209,401 | 85.2% | 33,403 | 13.6% | 2,841 | 1.2% |
| TOTAL | | | | | | | | | | | | | | | | | | | | | |
| 1975 | 65,823 | 59,190 | 89.9% | 5,931 | 9.0% | 702 | 1.1% | 70,736 | 64,876 | 91.7% | 5,144 | 7.3% | 716 | 1.0% | 522,324 | 444,059 | 85.0% | 71,991 | 13.8% | 6,274 | 1.2% |
| 1977 | 68,832 | 61,588 | 89.5% | 6,525 | 9.5% | 719 | 1.0% | 70,402 | 63,978 | 90.9% | 5,723 | 8.1% | 701 | 1.0% | 540,303 | 459,558 | 85.1% | 74,173 | 13.7% | 6,572 | 1.2% |
| 1979 | 72,974 | 65,003 | 89.1% | 7,296 | 10.0% | 675 | 0.9% | 74,586 | 67,279 | 90.2% | 6,655 | 8.9% | 652 | 0.9% | 563,232 | 474,694 | 84.3% | 82,375 | 14.6% | 6,163 | 1.1% |
| 1981 | 69,415 | 61,229 | 88.2% | 7,447 | 10.7% | 739 | 1.1% | 71,309 | 63,966 | 89.7% | 6,661 | 9.3% | 682 | 1.0% | 556,916 | 467,286 | 83.9% | 82,874 | 14.9% | 6,756 | 1.2% |
| 1983 | 70,785 | 62,792 | 88.7% | 7,225 | 10.2% | 768 | 1.1% | 71,824 | 64,578 | 89.9% | 6,569 | 9.1% | 677 | 0.9% | 580,308 | 492,306 | 84.8% | 81,220 | 14.0% | 6,782 | 1.2% |
| 1985 | 73,134 | 64,538 | 88.2% | 7,880 | 10.8% | 716 | 1.0% | 75,077 | 67,249 | 89.6% | 7,168 | 9.5% | 660 | 0.9% | 600,074 | 506,427 | 84.4% | 86,980 | 14.5% | 6,667 | 1.1% |
| 1986 | 76,290 | 68,386 | 89.6% | 7,205 | 9.4% | 699 | 0.9% | 70,199 | 62,973 | 89.7% | 6,555 | 9.3% | 671 | 1.0% | 596,119 | 512,063 | 85.9% | 77,289 | 13.0% | 6,767 | 1.1% |

## EXHIBIT A.3:
## VEHICLE TRIPS CROSSING EXTENDED CORE CORDON

| | 7:00 A.M. - 9:00 A.M. A.M. Peak Period - Inbound | | | | | | | 4:00 P.M. - 6:00 P.M. P.M. Peak Period - Outbound | | | | | | | 7:00 A.M. - 7:00 P.M. Two-way Totals | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total Vehicles | Autos & Taxis Number | Autos & Taxis % | Trucks Number | Trucks % | Transit Veh. Number | Transit Veh. % | Total Vehicles | Autos & Taxis Number | Autos & Taxis % | Trucks Number | Trucks % | Transit Veh. Number | Transit Veh. % | Total Vehicles | Autos & Taxis Number | Autos & Taxis % | Trucks Number | Trucks % | Transit Veh. Number | Transit Veh. % |
| West | | | | | | | | | | | | | | | | | | | | | |
| 1985 | 25,051 | 22,158 | 88.5% | 2,719 | 10.9% | 174 | 0.7% | 26,034 | 23,226 | 89.2% | 2,618 | 10.1% | 190 | 0.7% | 232,153 | 195,060 | 84.0% | 34,891 | 15.0% | 2,202 | 0.9% |
| 1986 | 26,172 | 23,225 | 88.7% | 2,782 | 10.6% | 165 | 0.6% | 23,242 | 20,436 | 87.9% | 2,633 | 11.3% | 173 | 0.7% | 241,544 | 202,610 | 83.9% | 36,742 | 15.2% | 2,192 | 0.9% |
| North | | | | | | | | | | | | | | | | | | | | | |
| 1985 | 8,382 | 7,451 | 88.9% | 781 | 9.3% | 150 | 1.8% | 10,693 | 9,800 | 91.6% | 742 | 6.9% | 151 | 1.4% | 107,883 | 93,946 | 87.1% | 12,443 | 11.5% | 1,494 | 1.4% |
| 1986 | 8,650 | 7,661 | 88.6% | 852 | 9.8% | 137 | 1.6% | 11,758 | 10,647 | 90.6% | 967 | 8.2% | 144 | 1.2% | 115,493 | 90,606 | 86.2% | 14,409 | 12.5% | 1,478 | 1.3% |
| East | | | | | | | | | | | | | | | | | | | | | |
| 1985 | 17,918 | 15,526 | 86.7% | 2,200 | 12.3% | 192 | 1.1% | 20,943 | 18,405 | 87.9% | 2,353 | 11.2% | 185 | 0.9% | 161,730 | 133,386 | 82.5% | 26,562 | 16.4% | 1,782 | 1.1% |
| 1986 | 22,918 | 19,859 | 86.7% | 2,866 | 12.5% | 193 | 0.8% | 21,080 | 18,548 | 88.0% | 2,332 | 11.1% | 200 | 0.9% | 186,754 | 153,159 | 82.0% | 31,550 | 16.9% | 2,045 | 1.1% |
| TOTAL | | | | | | | | | | | | | | | | | | | | | |
| 1985 | 51,351 | 45,135 | 87.9% | 5,700 | 11.1% | 516 | 1.0% | 57,670 | 51,431 | 89.2% | 5,713 | 9.9% | 526 | 0.9% | 501,766 | 422,392 | 84.2% | 73,896 | 14.7% | 5,478 | 1.1% |
| 1986 | 57,740 | 50,745 | 87.9% | 6,500 | 11.3% | 495 | 0.9% | 56,080 | 49,631 | 88.5% | 5,932 | 10.6% | 517 | 0.9% | 543,791 | 455,375 | 83.7% | 82,701 | 15.2% | 5,715 | 1.1% |

## EXHIBIT A.4:
## VEHICLE TRIPS CROSSING DOWNTOWN CORDON

| | 7:00 A.M. - 9:00 A.M. A.M. Peak Period - Inbound | | | | | | | 4:00 P.M. - 6:00 P.M. P.M. Peak Period - Outbound | | | | | | | 7:00 A.M. - 7:00 P.M. Two-way Totals | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total Vehicles | Autos & Taxis Number | Autos & Taxis % | Trucks Number | Trucks % | Transit Veh. Number | Transit Veh. % | Total Vehicles | Autos & Taxis Number | Autos & Taxis % | Trucks Number | Trucks % | Transit Veh. Number | Transit Veh. % | Total Vehicles | Autos & Taxis Number | Autos & Taxis % | Trucks Number | Trucks % | Transit Veh. Number | Transit Veh. % |
| **West** | | | | | | | | | | | | | | | | | | | | | |
| 1975 | 12,752 | 11,031 | 86.5% | 1,317 | 10.3% | 404 | 3.2% | 19,721 | 18,005 | 91.3% | 1,267 | 6.4% | 449 | 2.3% | 176,027 | 151,740 | 86.2% | 20,295 | 11.5% | 3,992 | 2.3% |
| 1977 | 13,143 | 11,449 | 87.1% | 1,268 | 9.6% | 426 | 3.2% | 21,432 | 19,620 | 91.5% | 1,341 | 6.3% | 471 | 2.2% | 181,603 | 157,485 | 86.7% | 20,008 | 11.0% | 4,110 | 2.3% |
| 1979 | 13,471 | 11,616 | 86.2% | 1,443 | 10.7% | 412 | 3.1% | 20,979 | 19,000 | 90.6% | 1,521 | 7.3% | 458 | 2.2% | 183,071 | 156,255 | 85.4% | 22,777 | 12.4% | 4,039 | 2.2% |
| 1981 | 13,036 | 11,159 | 85.6% | 1,478 | 11.3% | 399 | 3.1% | 20,945 | 18,906 | 90.3% | 1,662 | 7.9% | 377 | 1.8% | 187,969 | 160,086 | 85.2% | 23,976 | 12.8% | 3,907 | 2.1% |
| 1982 | 12,844 | 10,969 | 85.4% | 1,513 | 11.8% | 362 | 2.8% | 20,674 | 18,636 | 90.1% | 1,642 | 7.9% | 396 | 1.9% | 184,690 | 158,304 | 85.7% | 22,549 | 12.2% | 3,837 | 2.1% |
| 1984 | 14,405 | 12,478 | 86.6% | 1,535 | 10.7% | 392 | 2.7% | 23,307 | 21,099 | 90.5% | 1,780 | 7.6% | 428 | 1.8% | 206,605 | 177,852 | 86.1% | 24,561 | 11.9% | 4,192 | 2.0% |
| 1986 | 15,631 | 13,526 | 86.5% | 1,724 | 11.0% | 381 | 2.4% | 22,661 | 20,267 | 89.4% | 1,989 | 8.8% | 405 | 1.8% | 204,994 | 174,216 | 85.0% | 26,890 | 13.1% | 3,888 | 1.9% |
| **North** | | | | | | | | | | | | | | | | | | | | | |
| 1975 | 3,676 | 3,425 | 93.2% | 240 | 6.5% | 11 | 0.3% | 4,443 | 4,218 | 94.9% | 202 | 4.5% | 23 | 0.5% | 33,016 | 29,523 | 89.4% | 3,327 | 10.1% | 166 | 0.5% |
| 1977 | 2,966 | 2,760 | 93.1% | 196 | 6.6% | 10 | 0.3% | 3,955 | 3,694 | 93.4% | 247 | 6.2% | 14 | 0.4% | 29,667 | 26,323 | 88.7% | 3,190 | 10.8% | 154 | 0.5% |
| 1979 | 3,728 | 3,418 | 91.7% | 299 | 8.0% | 11 | 0.3% | 4,454 | 4,157 | 93.3% | 286 | 6.4% | 11 | 0.2% | 33,742 | 29,650 | 87.9% | 3,950 | 11.7% | 142 | 0.4% |
| 1981 | 3,576 | 3,272 | 91.5% | 294 | 8.2% | 10 | 0.3% | 4,596 | 4,265 | 92.8% | 322 | 7.0% | 9 | 0.2% | 33,940 | 29,506 | 86.9% | 4,273 | 12.6% | 161 | 0.5% |
| 1982 | 3,589 | 3,321 | 92.5% | 263 | 7.3% | 5 | 0.1% | 4,633 | 4,334 | 93.5% | 286 | 6.2% | 13 | 0.3% | 36,300 | 31,867 | 87.8% | 4,285 | 11.8% | 148 | 0.4% |
| 1984 | 3,704 | 3,416 | 92.2% | 279 | 7.5% | 9 | 0.2% | 4,425 | 4,130 | 93.3% | 288 | 6.5% | 7 | 0.2% | 37,874 | 33,312 | 88.0% | 4,443 | 11.7% | 119 | 0.3% |
| 1986 | 3,821 | 3,480 | 91.1% | 336 | 8.8% | 5 | 0.1% | 4,799 | 4,360 | 90.9% | 424 | 8.8% | 15 | 0.3% | 38,407 | 33,298 | 86.7% | 4,993 | 13.0% | 116 | 0.3% |
| **East** | | | | | | | | | | | | | | | | | | | | | |
| 1975 | 16,764 | 15,103 | 90.1% | 1,345 | 8.0% | 316 | 1.9% | 17,597 | 16,136 | 91.7% | 1,148 | 6.5% | 313 | 1.8% | 143,985 | 124,096 | 86.2% | 16,973 | 11.8% | 2,916 | 2.0% |
| 1977 | 17,620 | 15,884 | 90.1% | 1,450 | 8.2% | 286 | 1.6% | 19,577 | 17,991 | 91.9% | 1,300 | 6.6% | 286 | 1.5% | 152,662 | 132,331 | 86.7% | 17,628 | 11.5% | 2,703 | 1.8% |
| 1979 | 18,263 | 16,403 | 89.8% | 1,574 | 8.6% | 286 | 1.6% | 18,963 | 17,245 | 90.9% | 1,427 | 7.5% | 291 | 1.5% | 156,133 | 133,619 | 85.6% | 19,823 | 12.7% | 2,691 | 1.7% |
| 1981 | 20,433 | 18,002 | 88.1% | 2,096 | 10.3% | 335 | 1.6% | 19,116 | 17,261 | 90.3% | 1,582 | 8.3% | 273 | 1.4% | 165,362 | 139,909 | 84.6% | 22,707 | 13.7% | 2,746 | 1.7% |
| 1982 | 17,474 | 15,512 | 88.8% | 1,644 | 9.4% | 318 | 1.8% | 19,403 | 17,587 | 90.6% | 1,518 | 7.8% | 298 | 1.5% | 157,946 | 135,215 | 85.6% | 19,919 | 12.6% | 2,812 | 1.8% |
| 1984 | 21,260 | 19,144 | 90.0% | 1,799 | 8.5% | 317 | 1.5% | 19,654 | 17,832 | 90.7% | 1,520 | 7.7% | 302 | 1.5% | 174,664 | 151,445 | 86.7% | 20,420 | 11.7% | 2,799 | 1.6% |
| 1986 | 19,367 | 17,162 | 88.6% | 1,915 | 9.9% | 290 | 1.5% | 20,087 | 18,131 | 90.3% | 1,665 | 8.3% | 291 | 1.4% | 168,682 | 143,492 | 85.1% | 22,464 | 13.3% | 2,726 | 1.6% |
| **South** | | | | | | | | | | | | | | | | | | | | | |
| 1975 | 4,909 | 4,422 | 90.1% | 374 | 7.6% | 113 | 2.3% | 3,407 | 3,015 | 88.5% | 310 | 9.1% | 82 | 2.4% | 38,167 | 32,752 | 85.8% | 4,413 | 11.6% | 1,002 | 2.6% |
| 1977 | 5,553 | 5,062 | 91.2% | 395 | 7.1% | 96 | 1.7% | 3,229 | 2,909 | 90.1% | 227 | 7.0% | 93 | 2.9% | 38,262 | 33,305 | 87.0% | 3,938 | 10.3% | 1,019 | 2.7% |
| 1979 | 5,146 | 4,625 | 89.9% | 423 | 8.2% | 98 | 1.9% | 3,382 | 3,033 | 89.7% | 269 | 8.0% | 80 | 2.4% | 37,933 | 32,751 | 86.3% | 4,230 | 11.2% | 952 | 2.5% |
| 1981 | 5,378 | 4,730 | 88.0% | 542 | 10.1% | 106 | 2.0% | 2,472 | 2,186 | 88.4% | 206 | 8.3% | 80 | 3.2% | 37,790 | 32,223 | 85.3% | 4,602 | 12.2% | 965 | 2.6% |
| 1982 | 5,426 | 4,848 | 89.3% | 483 | 8.9% | 95 | 1.8% | 3,151 | 2,819 | 89.5% | 265 | 8.4% | 67 | 2.1% | 38,029 | 32,593 | 85.7% | 4,525 | 11.9% | 911 | 2.4% |
| 1984 | 5,868 | 5,256 | 89.6% | 506 | 8.6% | 106 | 1.8% | 3,449 | 3,116 | 90.3% | 258 | 7.5% | 75 | 2.2% | 41,602 | 35,694 | 85.8% | 4,852 | 11.7% | 1,056 | 2.5% |
| 1986 | 6,791 | 6,099 | 89.8% | 622 | 9.2% | 70 | 1.0% | 3,208 | 2,802 | 87.3% | 352 | 11.0% | 54 | 1.7% | 43,871 | 37,347 | 85.1% | 5,758 | 13.1% | 766 | 1.7% |
| **TOTAL** | | | | | | | | | | | | | | | | | | | | | |
| 1975 | 38,101 | 33,981 | 89.2% | 3,276 | 8.6% | 844 | 2.2% | 45,168 | 41,374 | 91.6% | 2,927 | 6.5% | 867 | 1.9% | 391,195 | 338,111 | 86.4% | 45,008 | 11.5% | 8,076 | 2.1% |
| 1977 | 39,282 | 35,155 | 89.5% | 3,309 | 8.4% | 818 | 2.1% | 48,193 | 44,214 | 91.7% | 3,115 | 6.5% | 864 | 1.8% | 402,194 | 349,444 | 86.9% | 44,764 | 11.1% | 7,986 | 2.0% |
| 1979 | 40,608 | 36,062 | 88.8% | 3,739 | 9.2% | 807 | 2.0% | 47,778 | 43,435 | 90.9% | 3,503 | 7.3% | 840 | 1.8% | 410,879 | 352,275 | 85.7% | 50,780 | 12.4% | 7,824 | 1.9% |
| 1981 | 42,423 | 37,163 | 87.6% | 4,410 | 10.4% | 850 | 2.0% | 47,129 | 42,618 | 90.4% | 3,772 | 8.0% | 739 | 1.6% | 425,061 | 361,724 | 85.1% | 55,558 | 13.1% | 7,779 | 1.8% |
| 1982 | 39,333 | 34,650 | 88.1% | 3,903 | 9.9% | 780 | 2.0% | 47,861 | 43,376 | 90.6% | 3,711 | 7.8% | 774 | 1.6% | 416,965 | 357,979 | 85.9% | 51,278 | 12.3% | 7,708 | 1.8% |
| 1984 | 45,237 | 40,294 | 89.1% | 4,119 | 9.1% | 824 | 1.8% | 50,835 | 46,177 | 90.8% | 3,846 | 7.6% | 812 | 1.6% | 460,745 | 398,303 | 86.4% | 54,276 | 11.8% | 8,166 | 1.8% |
| 1986 | 45,610 | 40,267 | 88.3% | 4,597 | 10.1% | 746 | 1.6% | 50,755 | 45,560 | 89.8% | 4,430 | 8.7% | 765 | 1.5% | 455,954 | 388,353 | 85.2% | 60,105 | 13.2% | 7,496 | 1.6% |

# EXHIBIT A.5:
# VEHICLE TRIPS CROSSING DOWNTOWN CORE CORDON

| | 7:00 A.M. - 9:00 A.M. A.M. Peak Period - Inbound | | | | | | | 4:00 P.M. - 6:00 P.M. P.M. Peak Period - Outbound | | | | | | | 7:00 A.M. - 7:00 P.M. Two-way Totals | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total Vehicles | Autos & Taxis Number | Autos & Taxis % | Trucks Number | Trucks % | Transit Veh. Number | Transit Veh. % | Total Vehicles | Autos & Taxis Number | Autos & Taxis % | Trucks Number | Trucks % | Transit Veh. Number | Transit Veh. % | Total Vehicles | Autos & Taxis Number | Autos & Taxis % | Trucks Number | Trucks % | Transit Veh. Number | Transit Veh. % |
| **West** | | | | | | | | | | | | | | | | | | | | | |
| 1975 | 4,261 | 3,599 | 84.5% | 468 | 11.0% | 194 | 4.6% | 8,322 | 7,515 | 90.3% | 530 | 6.4% | 277 | 3.3% | 67,036 | 56,303 | 84.0% | 8,623 | 12.9% | 2,110 | 3.1% |
| 1977 | 4,335 | 3,682 | 84.9% | 446 | 10.3% | 207 | 4.8% | 9,163 | 8,335 | 91.0% | 537 | 5.9% | 291 | 3.2% | 71,268 | 60,457 | 84.8% | 8,616 | 12.1% | 2,195 | 3.1% |
| 1979 | 4,423 | 3,699 | 83.6% | 525 | 11.9% | 199 | 4.5% | 9,319 | 8,393 | 90.1% | 632 | 6.8% | 294 | 3.2% | 72,569 | 61,025 | 84.1% | 9,407 | 13.0% | 2,137 | 2.9% |
| 1981 | 4,041 | 3,441 | 85.2% | 441 | 10.9% | 159 | 3.9% | 9,230 | 8,363 | 90.6% | 655 | 7.1% | 212 | 2.3% | 73,542 | 62,160 | 84.5% | 9,559 | 13.0% | 1,823 | 2.5% |
| 1982 | 4,274 | 3,577 | 83.7% | 549 | 12.8% | 148 | 3.5% | 9,136 | 8,287 | 90.7% | 639 | 7.0% | 210 | 2.3% | 72,078 | 60,966 | 84.6% | 9,397 | 13.0% | 1,715 | 2.4% |
| 1984 | 4,766 | 4,072 | 85.4% | 530 | 11.1% | 164 | 3.4% | 10,372 | 9,339 | 90.0% | 792 | 7.6% | 241 | 2.3% | 82,491 | 69,926 | 84.8% | 10,595 | 12.8% | 1,970 | 2.4% |
| 1986 | 5,390 | 4,681 | 86.8% | 572 | 10.6% | 137 | 2.5% | 10,116 | 8,984 | 88.8% | 905 | 8.9% | 227 | 2.2% | 78,575 | 65,775 | 83.7% | 11,092 | 14.1% | 1,708 | 2.2% |
| **North** | | | | | | | | | | | | | | | | | | | | | |
| 1975 | 3,819 | 3,249 | 85.1% | 438 | 11.5% | 132 | 3.5% | 5,013 | 4,595 | 91.7% | 312 | 6.2% | 106 | 2.1% | 54,013 | 46,273 | 85.7% | 6,614 | 12.2% | 1,126 | 2.1% |
| 1977 | 3,696 | 3,209 | 86.8% | 345 | 9.3% | 142 | 3.8% | 5,291 | 4,835 | 91.4% | 347 | 6.6% | 109 | 2.1% | 56,241 | 48,510 | 86.3% | 6,594 | 11.7% | 1,137 | 2.0% |
| 1979 | 3,965 | 3,338 | 84.2% | 475 | 12.0% | 152 | 3.8% | 5,813 | 5,263 | 90.5% | 449 | 7.7% | 101 | 1.7% | 58,548 | 49,808 | 85.1% | 7,606 | 13.0% | 1,134 | 1.9% |
| 1981 | 3,817 | 3,264 | 85.5% | 437 | 11.4% | 116 | 3.0% | 6,069 | 5,545 | 91.4% | 431 | 7.1% | 93 | 1.5% | 60,176 | 51,125 | 85.0% | 7,939 | 13.2% | 1,112 | 1.8% |
| 1982 | 3,931 | 3,360 | 85.5% | 459 | 11.7% | 112 | 2.8% | 5,885 | 5,383 | 91.5% | 406 | 6.9% | 96 | 1.6% | 58,529 | 49,812 | 85.1% | 7,610 | 13.0% | 1,107 | 1.9% |
| 1984 | 4,352 | 3,803 | 87.4% | 425 | 9.8% | 124 | 2.8% | 6,178 | 5,614 | 90.9% | 446 | 7.2% | 118 | 1.9% | 63,704 | 54,669 | 85.8% | 7,771 | 12.2% | 1,264 | 2.0% |
| 1986 | 4,559 | 3,876 | 85.0% | 561 | 12.3% | 122 | 2.7% | 6,458 | 5,742 | 88.9% | 606 | 9.4% | 110 | 1.7% | 66,026 | 55,516 | 84.1% | 9,342 | 14.1% | 1,168 | 1.8% |
| **East** | | | | | | | | | | | | | | | | | | | | | |
| 1975 | 7,740 | 6,852 | 88.5% | 696 | 9.0% | 192 | 2.5% | 8,104 | 7,364 | 90.9% | 557 | 6.9% | 183 | 2.3% | 61,619 | 51,814 | 84.1% | 8,118 | 13.2% | 1,687 | 2.7% |
| 1977 | 8,232 | 7,292 | 88.6% | 772 | 9.4% | 168 | 2.0% | 8,540 | 7,762 | 90.9% | 607 | 7.1% | 171 | 2.0% | 63,103 | 53,395 | 84.6% | 8,195 | 13.0% | 1,513 | 2.4% |
| 1979 | 8,672 | 7,710 | 88.9% | 799 | 9.2% | 163 | 1.9% | 8,590 | 7,715 | 89.8% | 705 | 8.2% | 170 | 2.0% | 67,408 | 56,501 | 83.8% | 9,376 | 13.9% | 1,531 | 2.3% |
| 1981 | 10,848 | 9,501 | 87.6% | 1,181 | 10.9% | 166 | 1.5% | 8,323 | 7,428 | 89.2% | 765 | 9.2% | 130 | 1.6% | 74,788 | 62,026 | 82.9% | 11,464 | 15.3% | 1,298 | 1.7% |
| 1982 | 8,590 | 7,634 | 88.9% | 813 | 9.5% | 143 | 1.7% | 8,919 | 8,055 | 90.3% | 705 | 7.9% | 159 | 1.8% | 68,464 | 58,017 | 84.7% | 9,080 | 13.3% | 1,367 | 2.0% |
| 1984 | 11,102 | 9,966 | 89.8% | 972 | 8.8% | 164 | 1.5% | 9,343 | 8,444 | 90.4% | 747 | 8.0% | 152 | 1.6% | 78,047 | 66,865 | 85.7% | 9,871 | 12.6% | 1,311 | 1.7% |
| 1986 | 9,645 | 8,510 | 88.2% | 995 | 10.3% | 140 | 1.5% | 9,518 | 8,536 | 89.7% | 831 | 8.7% | 151 | 1.6% | 74,021 | 62,068 | 83.9% | 10,656 | 14.4% | 1,297 | 1.8% |
| **South** | | | | | | | | | | | | | | | | | | | | | |
| 1975 | 4,909 | 4,422 | 90.1% | 374 | 7.6% | 113 | 2.3% | 3,407 | 3,015 | 88.5% | 310 | 9.1% | 82 | 2.4% | 38,167 | 32,752 | 85.8% | 4,413 | 11.6% | 1,002 | 2.6% |
| 1977 | 5,553 | 5,062 | 91.2% | 395 | 7.1% | 96 | 1.7% | 3,229 | 2,909 | 90.1% | 227 | 7.0% | 93 | 2.9% | 38,262 | 33,305 | 87.0% | 3,938 | 10.3% | 1,019 | 2.7% |
| 1979 | 5,146 | 4,625 | 89.9% | 423 | 8.2% | 98 | 1.9% | 3,382 | 3,033 | 89.7% | 269 | 8.0% | 80 | 2.4% | 37,933 | 32,751 | 86.3% | 4,230 | 11.2% | 952 | 2.5% |
| 1981 | 5,378 | 4,730 | 88.0% | 542 | 10.1% | 106 | 2.0% | 2,472 | 2,186 | 88.4% | 206 | 8.3% | 80 | 3.2% | 37,790 | 32,223 | 85.3% | 4,602 | 12.2% | 965 | 2.6% |
| 1982 | 5,426 | 4,848 | 89.3% | 483 | 8.9% | 95 | 1.8% | 3,151 | 2,819 | 89.5% | 265 | 8.4% | 67 | 2.1% | 38,029 | 32,593 | 85.7% | 4,525 | 11.9% | 911 | 2.4% |
| 1984 | 5,868 | 5,256 | 89.6% | 506 | 8.6% | 106 | 1.8% | 3,449 | 3,116 | 90.3% | 258 | 7.5% | 75 | 2.2% | 41,602 | 35,694 | 85.8% | 4,852 | 11.7% | 1,056 | 2.5% |
| 1986 | 6,791 | 6,099 | 89.8% | 626 | 9.2% | 70 | 1.0% | 3,208 | 2,802 | 87.3% | 352 | 11.0% | 54 | 1.7% | 43,871 | 37,347 | 85.1% | 5,758 | 13.1% | 766 | 1.7% |
| **TOTAL** | | | | | | | | | | | | | | | | | | | | | |
| 1975 | 20,729 | 18,122 | 87.4% | 1,976 | 9.5% | 631 | 3.0% | 24,846 | 22,489 | 90.5% | 1,709 | 6.9% | 648 | 2.6% | 220,835 | 187,142 | 84.7% | 27,768 | 12.6% | 5,925 | 2.7% |
| 1977 | 21,816 | 19,245 | 88.2% | 1,958 | 9.0% | 613 | 2.8% | 26,223 | 23,841 | 90.9% | 1,718 | 6.6% | 664 | 2.5% | 228,874 | 195,667 | 85.5% | 27,343 | 11.9% | 5,864 | 2.6% |
| 1979 | 22,206 | 19,372 | 87.2% | 2,222 | 10.0% | 612 | 2.8% | 27,104 | 24,404 | 90.0% | 2,055 | 7.6% | 645 | 2.4% | 236,458 | 200,085 | 84.6% | 30,619 | 12.9% | 5,754 | 2.4% |
| 1981 | 24,084 | 20,936 | 86.9% | 2,601 | 10.8% | 547 | 2.3% | 26,094 | 23,522 | 90.1% | 2,057 | 7.9% | 515 | 2.0% | 246,296 | 207,534 | 84.3% | 33,564 | 13.6% | 5,198 | 2.1% |
| 1982 | 22,221 | 19,419 | 87.4% | 2,304 | 10.4% | 498 | 2.2% | 27,091 | 24,544 | 90.6% | 2,015 | 7.4% | 532 | 2.0% | 237,100 | 201,388 | 84.9% | 30,612 | 12.9% | 5,100 | 2.2% |
| 1984 | 26,088 | 23,097 | 88.5% | 2,433 | 9.3% | 558 | 2.1% | 29,342 | 26,513 | 90.4% | 2,243 | 7.6% | 586 | 2.0% | 265,844 | 227,154 | 85.4% | 33,089 | 12.4% | 5,601 | 2.1% |
| 1986 | 26,285 | 23,166 | 87.8% | 2,750 | 10.4% | 469 | 1.8% | 29,300 | 26,064 | 89.0% | 2,694 | 9.2% | 542 | 1.8% | 262,493 | 220,706 | 84.1% | 36,848 | 14.0% | 4,939 | 1.9% |

# EXHIBIT A.6:
# PERSON TRIPS CROSSING CENTRAL AREA CORDON

| | 7:00 A.M. - 9:00 A.M. A.M. Peak Period - Inbound | | | | | | | 4:00 P.M. - 6:00 P.M. P.M. Peak Period - Outbound | | | | | | | 7:00 A.M. 7:00 P.M. Two-way Totals | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total Persons | Auto & Taxi Number | Auto & Taxi % | Transit Number | Transit % | GO Rail Number | GO Rail % | Total Persons | Auto & Taxi Number | Auto & Taxi % | Transit Number | Transit % | GO Rail Number | GO Rail % | Total Persons | Auto & Taxi Number | Auto & Taxi % | Transit Number | Transit % | GO Rail Number | GO Rail % |
| **West** | | | | | | | | | | | | | | | | | | | | | |
| 1975 | 85,182 | 28,178 | 33.1% | 51,302 | 60.2% | 5,702 | 6.7% | 86,621 | 34,761 | 40.1% | 46,624 | 53.8% | 5,236 | 6.0% | 465,855 | 229,608 | 49.3% | 222,154 | 47.7% | 14,093 | 3.0% |
| 1977 | 86,544 | 29,583 | 34.2% | 49,583 | 57.3% | 7,378 | 8.5% | 88,401 | 33,903 | 38.4% | 47,239 | 53.4% | 7,259 | 8.2% | 477,694 | 232,682 | 48.7% | 226,687 | 47.5% | 18,325 | 3.8% |
| 1979 | 83,805 | 30,421 | 36.3% | 44,508 | 53.1% | 8,876 | 10.6% | 95,195 | 38,978 | 40.9% | 47,986 | 50.4% | 8,231 | 8.6% | 480,550 | 241,187 | 50.2% | 218,575 | 45.5% | 20,788 | 4.3% |
| 1981 | 87,217 | 27,914 | 32.0% | 47,761 | 54.8% | 11,542 | 13.2% | 87,679 | 29,606 | 33.8% | 47,538 | 54.2% | 10,535 | 12.0% | 494,369 | 229,564 | 46.4% | 237,724 | 48.1% | 27,081 | 5.5% |
| 1983 | 91,195 | 31,025 | 34.0% | 47,355 | 51.9% | 12,815 | 14.1% | 87,327 | 31,630 | 36.2% | 44,183 | 50.6% | 11,514 | 13.2% | 507,099 | 243,779 | 48.1% | 235,267 | 46.4% | 28,053 | 5.5% |
| 1985 | 90,191 | 31,910 | 35.4% | 44,175 | 49.0% | 14,106 | 15.6% | 84,406 | 32,812 | 38.9% | 39,275 | 46.5% | 12,319 | 14.6% | 518,624 | 251,017 | 48.4% | 236,233 | 45.5% | 31,374 | 6.0% |
| 1986 | 90,104 | 30,978 | 34.4% | 45,051 | 50.0% | 14,075 | 15.6% | 83,817 | 30,326 | 36.2% | 41,204 | 49.2% | 12,287 | 14.7% | 504,344 | 248,851 | 49.3% | 224,529 | 44.5% | 30,965 | 6.1% |
| **North** | | | | | | | | | | | | | | | | | | | | | |
| 1975 | 48,682 | 14,942 | 30.7% | 33,740 | 69.3% | 0 | 0.0% | 53,854 | 18,453 | 34.3% | 35,401 | 65.7% | 0 | 0.0% | 295,533 | 121,513 | 41.1% | 174,020 | 58.9% | 0 | 0.0% |
| 1977 | 59,352 | 16,496 | 27.8% | 42,856 | 72.2% | 0 | 0.0% | 55,463 | 19,061 | 34.4% | 36,402 | 65.6% | 0 | 0.0% | 326,204 | 131,276 | 40.2% | 194,928 | 59.8% | 0 | 0.0% |
| 1979 | 57,512 | 15,402 | 26.8% | 42,110 | 73.2% | 0 | 0.0% | 64,013 | 18,375 | 28.7% | 45,638 | 71.3% | 0 | 0.0% | 347,495 | 128,591 | 37.0% | 218,904 | 63.0% | 0 | 0.0% |
| 1981 | 67,193 | 15,263 | 22.7% | 51,930 | 77.3% | 0 | 0.0% | 67,744 | 18,833 | 27.8% | 48,911 | 72.2% | 0 | 0.0% | 386,018 | 129,384 | 33.5% | 256,634 | 66.5% | 0 | 0.0% |
| 1983 | 66,540 | 15,503 | 23.3% | 51,037 | 76.7% | 0 | 0.0% | 69,090 | 18,900 | 27.4% | 50,190 | 72.6% | 0 | 0.0% | 395,422 | 135,180 | 34.2% | 260,242 | 65.8% | 0 | 0.0% |
| 1985 | 65,250 | 15,773 | 24.2% | 49,477 | 75.8% | 0 | 0.0% | 70,221 | 18,946 | 27.0% | 51,275 | 73.0% | 0 | 0.0% | 398,941 | 135,873 | 34.1% | 263,068 | 65.9% | 0 | 0.0% |
| 1986 | 71,829 | 16,643 | 23.2% | 55,186 | 76.8% | 0 | 0.0% | 66,888 | 17,513 | 26.2% | 49,375 | 73.8% | 0 | 0.0% | 409,576 | 132,280 | 32.3% | 277,296 | 67.7% | 0 | 0.0% |
| **East** | | | | | | | | | | | | | | | | | | | | | |
| 1975 | 80,323 | 36,386 | 45.3% | 40,183 | 50.0% | 3,754 | 4.7% | 80,555 | 35,852 | 44.5% | 41,855 | 52.0% | 2,848 | 3.5% | 419,313 | 228,606 | 54.5% | 182,183 | 43.4% | 8,524 | 2.0% |
| 1977 | 76,361 | 35,946 | 47.1% | 35,986 | 47.1% | 4,429 | 5.8% | 78,641 | 34,506 | 43.9% | 40,809 | 51.9% | 3,326 | 4.2% | 413,320 | 234,298 | 56.7% | 168,961 | 40.9% | 10,061 | 2.4% |
| 1979 | 86,995 | 43,157 | 49.6% | 37,268 | 42.8% | 6,570 | 7.6% | 78,197 | 37,182 | 47.5% | 35,345 | 45.2% | 5,670 | 7.3% | 430,496 | 251,606 | 58.4% | 164,201 | 38.1% | 14,689 | 3.4% |
| 1981 | 92,417 | 36,857 | 39.9% | 47,661 | 51.6% | 7,899 | 8.5% | 84,621 | 36,654 | 43.3% | 41,482 | 49.0% | 6,485 | 7.7% | 451,597 | 240,310 | 53.2% | 193,857 | 42.9% | 17,430 | 3.9% |
| 1983 | 86,880 | 35,506 | 40.9% | 43,634 | 50.2% | 7,740 | 8.9% | 82,472 | 35,602 | 43.2% | 40,767 | 49.4% | 6,103 | 7.4% | 455,200 | 250,950 | 55.1% | 187,665 | 41.2% | 16,585 | 3.6% |
| 1985 | 80,848 | 35,052 | 43.4% | 37,292 | 46.1% | 8,504 | 10.5% | 87,138 | 36,299 | 41.7% | 43,395 | 49.8% | 7,444 | 8.5% | 462,479 | 253,131 | 54.7% | 189,917 | 41.1% | 19,431 | 4.2% |
| 1986 | 96,274 | 40,125 | 41.7% | 47,433 | 49.3% | 8,716 | 9.1% | 80,889 | 34,620 | 42.8% | 39,054 | 48.3% | 7,215 | 8.9% | 483,458 | 266,302 | 55.1% | 197,870 | 40.9% | 19,286 | 4.0% |
| **TOTAL** | | | | | | | | | | | | | | | | | | | | | |
| 1975 | 214,187 | 79,506 | 37.1% | 125,225 | 58.5% | 9,456 | 4.4% | 221,030 | 89,066 | 40.3% | 123,880 | 56.0% | 8,084 | 3.7% | 1,180,701 | 579,727 | 49.1% | 578,357 | 49.0% | 22,617 | 1.9% |
| 1977 | 222,257 | 82,025 | 36.9% | 128,425 | 57.8% | 11,807 | 5.3% | 222,505 | 87,470 | 39.3% | 124,450 | 55.9% | 10,585 | 4.8% | 1,217,218 | 598,256 | 49.1% | 590,576 | 48.5% | 28,386 | 2.3% |
| 1979 | 228,312 | 88,980 | 39.0% | 123,886 | 54.3% | 15,446 | 6.8% | 237,405 | 94,535 | 39.8% | 128,969 | 54.3% | 13,901 | 5.9% | 1,258,541 | 621,384 | 49.4% | 601,680 | 47.8% | 35,477 | 2.8% |
| 1981 | 246,827 | 80,034 | 32.4% | 147,352 | 59.7% | 19,441 | 7.9% | 240,044 | 85,093 | 35.4% | 137,931 | 57.5% | 17,020 | 7.1% | 1,331,984 | 599,258 | 45.0% | 688,215 | 51.7% | 44,511 | 3.3% |
| 1983 | 244,615 | 82,034 | 33.5% | 142,026 | 58.1% | 20,555 | 8.4% | 238,889 | 86,132 | 36.1% | 135,140 | 56.6% | 17,617 | 7.4% | 1,357,721 | 629,909 | 46.4% | 683,174 | 50.3% | 44,638 | 3.3% |
| 1985 | 236,289 | 82,735 | 35.0% | 130,944 | 55.4% | 22,610 | 9.6% | 241,765 | 88,057 | 36.4% | 133,945 | 55.4% | 19,763 | 8.2% | 1,380,044 | 640,021 | 46.4% | 689,218 | 49.9% | 50,805 | 3.7% |
| 1986 | 258,206 | 87,745 | 34.0% | 147,670 | 57.2% | 22,791 | 8.8% | 231,594 | 82,459 | 35.6% | 129,633 | 56.0% | 19,502 | 8.4% | 1,397,379 | 647,433 | 46.3% | 699,695 | 50.1% | 50,251 | 3.6% |

## EXHIBIT A.7:
## PERSON TRIPS CROSSING EXTENDED CORE CORDON

| | 7:00 A.M. - 9:00 A.M. A.M. Peak Period - Inbound | | | | | | | 4:00 P.M. - 6:00 P.M. P.M. Peak Period - Outbound | | | | | | | 7:00 A.M. - 7:00 P.M. Two-way Totals | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total Persons | Auto & Taxi Number | Auto & Taxi % | Transit Number | Transit % | GO Rail Number | GO Rail % | Total Persons | Auto & Taxi Number | Auto & Taxi % | Transit Number | Transit % | GO Rail Number | GO Rail % | Total Persons | Auto & Taxi Number | Auto & Taxi % | Transit Number | Transit % | GO Rail Number | GO Rail % |
| West | | | | | | | | | | | | | | | | | | | | | |
| 1985 | 47,429 | 27,700 | 58.4% | 5,623 | 11.9% | 14,106 | 29.7% | 49,302 | 29,963 | 60.8% | 7,020 | 14.2% | 12,319 | 25.0% | 328,718 | 246,340 | 74.9% | 51,004 | 15.5% | 31,374 | 9.5% |
| 1986 | 49,797 | 30,403 | 61.1% | 5,319 | 10.7% | 14,075 | 28.3% | 43,539 | 25,857 | 59.4% | 5,395 | 12.4% | 12,287 | 28.2% | 344,847 | 262,002 | 76.0% | 51,880 | 15.0% | 30,965 | 9.0% |
| North | | | | | | | | | | | | | | | | | | | | | |
| 1985 | 61,559 | 9,232 | 15.0% | 52,327 | 85.0% | 0 | 0.0% | 70,513 | 12,757 | 18.1% | 57,756 | 81.9% | 0 | 0.0% | 362,082 | 118,447 | 32.7% | 243,635 | 67.3% | 0 | 0.0% |
| 1986 | 63,032 | 9,096 | 14.4% | 53,936 | 85.6% | 0 | 0.0% | 65,723 | 13,871 | 18.1% | 51,852 | 78.9% | 0 | 0.0% | 372,372 | 122,739 | 32.7% | 249,633 | 67.0% | 0 | 0.0% |
| East | | | | | | | | | | | | | | | | | | | | | |
| 1985 | 32,471 | 19,950 | 61.4% | 4,017 | 12.4% | 8,504 | 26.2% | 36,394 | 23,788 | 65.4% | 5,162 | 14.2% | 7,444 | 20.5% | 216,236 | 165,654 | 76.6% | 31,151 | 14.4% | 19,431 | 9.0% |
| 1986 | 39,353 | 25,297 | 64.3% | 5,340 | 13.6% | 8,716 | 22.1% | 37,964 | 24,925 | 65.7% | 5,824 | 15.3% | 7,215 | 19.0% | 248,124 | 190,793 | 76.9% | 38,045 | 15.3% | 19,286 | 7.8% |
| TOTAL | | | | | | | | | | | | | | | | | | | | | |
| 1985 | 141,459 | 56,882 | 40.2% | 61,967 | 43.8% | 22,610 | 16.0% | 156,209 | 66,508 | 42.6% | 69,938 | 44.8% | 19,763 | 12.7% | 907,036 | 530,441 | 58.5% | 325,790 | 35.9% | 50,805 | 5.6% |
| 1986 | 151,182 | 64,796 | 42.6% | 64,595 | 42.4% | 22,791 | 15.0% | 147,226 | 64,653 | 43.9% | 63,071 | 42.8% | 19,502 | 13.2% | 965,343 | 575,534 | 59.6% | 339,558 | 35.2% | 50,251 | 5.2% |

# EXHIBIT A.8:
# PERSON TRIPS CROSSING DOWNTOWN CORDON

| | 7:00 A.M. - 9:00 A.M. A.M. Peak Period - Inbound | | | | | | | 4:00 P.M. - 6:00 P.M. P.M. Peak Period - Outbound | | | | | | | 7:00 A.M. - 7:00 P.M. Two-way Totals | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total Persons | Auto & Taxi Number | Auto & Taxi % | Transit Number | Transit % | GO Rail Number | GO Rail % | Total Persons | Auto & Taxi Number | Auto & Taxi % | Transit Number | Transit % | GO Rail Number | GO Rail % | Total Persons | Auto & Taxi Number | Auto & Taxi % | Transit Number | Transit % | GO Rail Number | GO Rail % |
| **West** | | | | | | | | | | | | | | | | | | | | | |
| 1975 | 69,581 | 14,437 | 20.7% | 55,144 | 79.3% | 0 | 0.0% | 85,791 | 24,829 | 28.9% | 60,962 | 71.1% | 0 | 0.0% | 495,492 | 196,746 | 39.7% | 298,746 | 60.3% | 0 | 0.0% |
| 1977 | 63,537 | 14,510 | 22.8% | 49,027 | 77.2% | 0 | 0.0% | 79,399 | 26,301 | 33.1% | 53,098 | 66.9% | 0 | 0.0% | 487,356 | 203,020 | 41.7% | 284,336 | 58.3% | 0 | 0.0% |
| 1979 | 76,790 | 14,483 | 18.9% | 62,307 | 81.1% | 0 | 0.0% | 87,024 | 25,779 | 29.6% | 61,245 | 70.4% | 0 | 0.0% | 515,042 | 197,858 | 38.4% | 317,184 | 61.6% | 0 | 0.0% |
| 1981 | 85,691 | 13,881 | 16.2% | 71,810 | 83.8% | 0 | 0.0% | 90,428 | 25,045 | 27.7% | 65,383 | 72.3% | 0 | 0.0% | 551,280 | 201,755 | 36.6% | 349,525 | 63.4% | 0 | 0.0% |
| 1982 | 83,723 | 13,790 | 16.5% | 69,933 | 83.5% | 0 | 0.0% | 95,489 | 24,478 | 25.6% | 71,011 | 74.4% | 0 | 0.0% | 560,927 | 199,450 | 35.6% | 361,477 | 64.4% | 0 | 0.0% |
| 1984 | 89,803 | 15,480 | 17.2% | 74,323 | 82.8% | 0 | 0.0% | 90,218 | 28,059 | 31.1% | 62,159 | 68.9% | 0 | 0.0% | 587,330 | 222,139 | 37.8% | 365,191 | 62.2% | 0 | 0.0% |
| 1986 | 78,399 | 16,606 | 21.2% | 61,793 | 78.8% | 0 | 0.0% | 89,951 | 26,417 | 29.4% | 63,534 | 70.6% | 0 | 0.0% | 556,521 | 215,898 | 38.8% | 340,623 | 61.2% | 0 | 0.0% |
| **North** | | | | | | | | | | | | | | | | | | | | | |
| 1975 | 44,897 | 4,597 | 10.2% | 40,300 | 89.8% | 0 | 0.0% | 47,410 | 5,794 | 12.2% | 41,616 | 87.8% | 0 | 0.0% | 231,695 | 38,615 | 16.7% | 193,080 | 83.3% | 0 | 0.0% |
| 1977 | 43,388 | 3,642 | 8.4% | 39,746 | 91.6% | 0 | 0.0% | 43,781 | 5,137 | 11.7% | 38,644 | 88.3% | 0 | 0.0% | 222,856 | 34,338 | 15.4% | 188,518 | 84.6% | 0 | 0.0% |
| 1979 | 33,463 | 4,464 | 13.3% | 28,999 | 86.7% | 0 | 0.0% | 37,411 | 5,620 | 15.0% | 31,791 | 85.0% | 0 | 0.0% | 198,376 | 37,311 | 18.8% | 161,065 | 81.2% | 0 | 0.0% |
| 1981 | 45,684 | 4,162 | 9.1% | 41,522 | 90.9% | 0 | 0.0% | 43,245 | 5,791 | 13.4% | 37,454 | 86.6% | 0 | 0.0% | 224,671 | 37,139 | 16.5% | 187,532 | 83.5% | 0 | 0.0% |
| 1982 | 39,167 | 4,346 | 11.1% | 34,821 | 88.9% | 0 | 0.0% | 41,539 | 5,720 | 13.8% | 35,819 | 86.2% | 0 | 0.0% | 222,379 | 39,953 | 18.0% | 182,426 | 82.0% | 0 | 0.0% |
| 1984 | 38,448 | 4,348 | 11.3% | 34,100 | 88.7% | 0 | 0.0% | 40,820 | 5,413 | 13.3% | 35,407 | 86.7% | 0 | 0.0% | 222,619 | 41,376 | 18.6% | 181,243 | 81.4% | 0 | 0.0% |
| 1986 | 36,287 | 4,275 | 11.8% | 32,012 | 88.2% | 0 | 0.0% | 39,328 | 5,769 | 14.7% | 33,559 | 85.3% | 0 | 0.0% | 222,685 | 41,886 | 18.8% | 180,799 | 81.2% | 0 | 0.0% |
| **East** | | | | | | | | | | | | | | | | | | | | | |
| 1975 | 62,283 | 21,047 | 33.8% | 41,236 | 66.2% | 0 | 0.0% | 63,320 | 22,722 | 35.9% | 40,598 | 64.1% | 0 | 0.0% | 365,536 | 161,852 | 44.3% | 203,684 | 55.7% | 0 | 0.0% |
| 1977 | 64,076 | 21,659 | 33.8% | 42,417 | 66.2% | 0 | 0.0% | 66,549 | 25,454 | 38.2% | 41,095 | 61.8% | 0 | 0.0% | 370,883 | 171,518 | 46.2% | 199,365 | 53.8% | 0 | 0.0% |
| 1979 | 61,719 | 22,775 | 36.9% | 38,944 | 63.1% | 0 | 0.0% | 62,990 | 23,789 | 37.8% | 39,201 | 62.2% | 0 | 0.0% | 369,564 | 170,829 | 46.2% | 198,735 | 53.8% | 0 | 0.0% |
| 1981 | 66,939 | 23,985 | 35.8% | 42,954 | 64.2% | 0 | 0.0% | 67,344 | 24,064 | 35.7% | 43,280 | 64.3% | 0 | 0.0% | 395,422 | 179,328 | 45.4% | 216,094 | 54.6% | 0 | 0.0% |
| 1982 | 66,167 | 21,166 | 32.0% | 45,001 | 68.0% | 0 | 0.0% | 70,614 | 24,454 | 34.6% | 46,160 | 65.4% | 0 | 0.0% | 389,074 | 172,671 | 44.4% | 216,403 | 55.6% | 0 | 0.0% |
| 1984 | 73,078 | 25,637 | 35.1% | 47,441 | 64.9% | 0 | 0.0% | 67,313 | 24,132 | 35.9% | 43,181 | 64.1% | 0 | 0.0% | 414,657 | 190,114 | 45.8% | 224,543 | 54.2% | 0 | 0.0% |
| 1986 | 68,185 | 22,438 | 32.9% | 45,747 | 67.1% | 0 | 0.0% | 67,060 | 24,395 | 36.4% | 42,665 | 63.6% | 0 | 0.0% | 393,264 | 178,183 | 45.3% | 215,081 | 54.7% | 0 | 0.0% |
| **South** | | | | | | | | | | | | | | | | | | | | | |
| 1975 | 15,954 | 6,283 | 39.4% | 713 | 4.5% | 8,958 | 56.1% | 13,394 | 4,572 | 34.1% | 821 | 6.1% | 8,001 | 59.7% | 76,834 | 44,243 | 57.6% | 11,318 | 14.7% | 21,273 | 27.7% |
| 1977 | 19,630 | 7,114 | 36.2% | 709 | 3.6% | 11,807 | 60.1% | 15,875 | 4,475 | 28.2% | 815 | 5.1% | 10,585 | 66.7% | 86,489 | 45,998 | 53.2% | 12,071 | 14.0% | 28,420 | 32.9% |
| 1979 | 22,594 | 6,369 | 28.2% | 779 | 3.4% | 15,446 | 68.4% | 18,791 | 4,583 | 24.4% | 607 | 3.2% | 13,601 | 72.4% | 89,682 | 43,746 | 48.8% | 10,749 | 12.0% | 35,187 | 39.2% |
| 1981 | 26,843 | 6,470 | 24.1% | 932 | 3.5% | 19,441 | 72.4% | 21,155 | 3,157 | 14.9% | 978 | 4.6% | 17,020 | 80.5% | 98,843 | 41,971 | 42.5% | 12,361 | 12.5% | 44,511 | 45.0% |
| 1982 | 26,711 | 6,069 | 22.7% | 556 | 2.1% | 20,086 | 75.2% | 22,911 | 4,185 | 18.3% | 586 | 2.6% | 18,140 | 79.2% | 93,345 | 40,540 | 43.4% | 7,349 | 7.9% | 45,456 | 48.7% |
| 1984 | 29,949 | 7,322 | 24.4% | 585 | 2.0% | 22,042 | 73.6% | 24,100 | 4,335 | 18.0% | 831 | 3.4% | 18,934 | 78.6% | 108,404 | 46,865 | 43.2% | 12,615 | 11.6% | 48,924 | 45.1% |
| 1986 | 31,476 | 8,116 | 25.8% | 569 | 1.8% | 22,791 | 72.4% | 24,143 | 3,957 | 16.4% | 684 | 2.8% | 19,502 | 80.8% | 107,979 | 47,733 | 44.2% | 9,995 | 9.3% | 50,251 | 46.5% |
| **TOTAL** | | | | | | | | | | | | | | | | | | | | | |
| 1975 | 192,715 | 46,364 | 24.1% | 137,393 | 71.3% | 8,958 | 4.6% | 209,915 | 57,917 | 27.6% | 143,997 | 68.6% | 8,001 | 3.8% | 1,169,557 | 441,456 | 37.7% | 706,828 | 60.4% | 21,273 | 1.8% |
| 1977 | 190,631 | 46,925 | 24.6% | 131,899 | 69.2% | 11,807 | 6.2% | 205,604 | 61,367 | 29.8% | 132,652 | 65.0% | 10,585 | 5.1% | 1,167,584 | 454,874 | 39.0% | 684,290 | 58.6% | 28,420 | 2.4% |
| 1979 | 194,566 | 48,091 | 24.7% | 131,029 | 67.3% | 15,446 | 7.9% | 206,216 | 59,771 | 29.0% | 132,844 | 64.4% | 13,601 | 6.6% | 1,172,664 | 449,744 | 38.4% | 687,733 | 58.6% | 35,187 | 3.0% |
| 1981 | 225,157 | 48,498 | 21.5% | 157,218 | 69.8% | 19,441 | 8.6% | 222,172 | 58,057 | 26.1% | 147,095 | 66.2% | 17,020 | 7.7% | 1,270,216 | 460,193 | 36.2% | 765,512 | 60.3% | 44,511 | 3.5% |
| 1982 | 215,768 | 45,371 | 21.0% | 150,311 | 69.7% | 20,086 | 9.3% | 230,553 | 58,837 | 25.5% | 153,576 | 66.6% | 18,140 | 7.9% | 1,265,725 | 452,614 | 35.8% | 767,655 | 60.6% | 45,456 | 3.6% |
| 1984 | 231,278 | 52,787 | 22.8% | 156,449 | 67.6% | 22,042 | 9.5% | 222,451 | 61,939 | 27.8% | 141,578 | 63.6% | 18,934 | 8.5% | 1,333,010 | 500,494 | 37.5% | 783,592 | 58.8% | 48,924 | 3.7% |
| 1986 | 214,347 | 51,435 | 24.0% | 140,121 | 65.4% | 22,791 | 10.6% | 220,482 | 60,538 | 27.5% | 140,442 | 63.7% | 19,502 | 8.8% | 1,280,449 | 483,700 | 37.8% | 746,498 | 58.3% | 50,251 | 3.9% |

## EXHIBIT A.9:
## PERSON TRIPS CROSSING DOWNTOWN CORE CORDON

| | 7:00 A.M. - 9:00 A.M. A.M. Peak Period - Inbound | | | | | | | 4:00 P.M. - 6:00 P.M. P.M. Peak Period - Outbound | | | | | | | 7:00 A.M. - 7:00 P.M. Two-way Totals | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total Persons | Auto & Taxi Number | Auto & Taxi % | Transit Number | Transit % | GO Rail Number | GO Rail % | Total Persons | Auto & Taxi Number | Auto & Taxi % | Transit Number | Transit % | GO Rail Number | GO Rail % | Total Persons | Auto & Taxi Number | Auto & Taxi % | Transit Number | Transit % | GO Rail Number | GO Rail % |
| **West** | | | | | | | | | | | | | | | | | | | | | |
| 1975 | 9,642 | 4,797 | 49.8% | 4,845 | 50.2% | 0 | 0.0% | 17,126 | 10,338 | 60.4% | 6,788 | 39.6% | 0 | 0.0% | 110,052 | 71,583 | 65.0% | 38,469 | 35.0% | 0 | 0.0% |
| 1977 | 8,998 | 4,669 | 51.9% | 4,329 | 48.1% | 0 | 0.0% | 18,169 | 11,111 | 61.2% | 7,058 | 38.8% | 0 | 0.0% | 114,254 | 76,213 | 66.7% | 38,041 | 33.3% | 0 | 0.0% |
| 1979 | 9,179 | 4,645 | 50.6% | 4,534 | 49.4% | 0 | 0.0% | 17,855 | 11,589 | 64.9% | 6,266 | 35.1% | 0 | 0.0% | 113,459 | 75,726 | 66.7% | 37,733 | 33.3% | 0 | 0.0% |
| 1981 | 8,545 | 4,223 | 49.4% | 4,322 | 50.6% | 0 | 0.0% | 17,021 | 10,843 | 63.7% | 6,178 | 36.3% | 0 | 0.0% | 112,245 | 75,697 | 67.4% | 36,548 | 32.6% | 0 | 0.0% |
| 1982 | 8,286 | 4,495 | 54.2% | 3,791 | 45.8% | 0 | 0.0% | 16,252 | 10,566 | 65.0% | 5,686 | 35.0% | 0 | 0.0% | 110,971 | 73,598 | 66.3% | 37,373 | 33.7% | 0 | 0.0% |
| 1984 | 8,607 | 5,144 | 59.8% | 3,463 | 40.2% | 0 | 0.0% | 18,870 | 12,530 | 66.4% | 6,340 | 33.6% | 0 | 0.0% | 122,782 | 86,060 | 70.1% | 36,722 | 29.9% | 0 | 0.0% |
| 1986 | 9,459 | 5,786 | 61.2% | 3,673 | 38.8% | 0 | 0.0% | 17,260 | 11,433 | 66.2% | 5,827 | 33.8% | 0 | 0.0% | 112,480 | 79,193 | 70.4% | 33,287 | 29.6% | 0 | 0.0% |
| **North** | | | | | | | | | | | | | | | | | | | | | |
| 1975 | 55,253 | 4,274 | 7.7% | 50,979 | 92.3% | 0 | 0.0% | 51,910 | 6,566 | 12.6% | 45,344 | 87.4% | 0 | 0.0% | 275,022 | 62,707 | 22.8% | 212,315 | 77.2% | 0 | 0.0% |
| 1977 | 51,361 | 4,042 | 7.9% | 47,319 | 92.1% | 0 | 0.0% | 59,486 | 6,564 | 11.0% | 52,922 | 89.0% | 0 | 0.0% | 285,851 | 62,698 | 21.9% | 223,153 | 78.1% | 0 | 0.0% |
| 1979 | 53,507 | 4,208 | 7.9% | 49,299 | 92.1% | 0 | 0.0% | 53,145 | 7,066 | 13.3% | 46,079 | 86.7% | 0 | 0.0% | 283,514 | 63,150 | 22.3% | 220,364 | 77.7% | 0 | 0.0% |
| 1981 | 58,140 | 4,080 | 7.0% | 54,060 | 93.0% | 0 | 0.0% | 63,500 | 7,650 | 12.0% | 55,850 | 88.0% | 0 | 0.0% | 323,126 | 68,066 | 21.1% | 255,060 | 78.9% | 0 | 0.0% |
| 1982 | 62,451 | 4,191 | 6.7% | 58,260 | 93.3% | 0 | 0.0% | 62,415 | 6,892 | 11.0% | 55,523 | 89.0% | 0 | 0.0% | 322,518 | 62,211 | 19.3% | 260,307 | 80.7% | 0 | 0.0% |
| 1984 | 62,897 | 4,675 | 7.4% | 58,222 | 92.6% | 0 | 0.0% | 59,003 | 7,429 | 12.6% | 51,574 | 87.4% | 0 | 0.0% | 315,556 | 70,658 | 22.4% | 244,898 | 77.6% | 0 | 0.0% |
| 1986 | 58,403 | 4,607 | 7.9% | 53,796 | 92.1% | 0 | 0.0% | 59,082 | 7,560 | 12.8% | 51,522 | 87.2% | 0 | 0.0% | 312,995 | 67,721 | 21.6% | 245,274 | 78.4% | 0 | 0.0% |
| **East** | | | | | | | | | | | | | | | | | | | | | |
| 1975 | 16,283 | 9,844 | 60.5% | 6,439 | 39.5% | 0 | 0.0% | 17,162 | 10,643 | 62.0% | 6,519 | 38.0% | 0 | 0.0% | 102,301 | 67,909 | 66.4% | 34,392 | 33.6% | 0 | 0.0% |
| 1977 | 16,121 | 10,162 | 63.0% | 5,959 | 37.0% | 0 | 0.0% | 17,589 | 11,410 | 64.9% | 6,179 | 35.1% | 0 | 0.0% | 105,244 | 69,670 | 66.2% | 35,574 | 33.8% | 0 | 0.0% |
| 1979 | 17,226 | 10,905 | 63.3% | 6,321 | 36.7% | 0 | 0.0% | 16,551 | 10,813 | 65.3% | 5,738 | 34.7% | 0 | 0.0% | 107,767 | 72,816 | 67.6% | 34,951 | 32.4% | 0 | 0.0% |
| 1981 | 17,983 | 12,661 | 70.4% | 5,322 | 29.6% | 0 | 0.0% | 16,879 | 10,628 | 63.0% | 6,251 | 37.0% | 0 | 0.0% | 113,218 | 79,586 | 70.3% | 33,632 | 29.7% | 0 | 0.0% |
| 1982 | 15,958 | 10,580 | 66.3% | 5,378 | 33.7% | 0 | 0.0% | 18,402 | 11,545 | 62.7% | 6,857 | 37.3% | 0 | 0.0% | 109,275 | 74,861 | 68.5% | 34,414 | 31.5% | 0 | 0.0% |
| 1984 | 18,733 | 13,654 | 72.9% | 5,079 | 27.1% | 0 | 0.0% | 16,574 | 11,394 | 68.7% | 5,180 | 31.3% | 0 | 0.0% | 113,970 | 84,418 | 74.1% | 29,552 | 25.9% | 0 | 0.0% |
| 1986 | 16,582 | 11,501 | 69.4% | 5,081 | 30.6% | 0 | 0.0% | 16,755 | 11,562 | 69.0% | 5,193 | 31.0% | 0 | 0.0% | 108,104 | 77,564 | 71.7% | 30,540 | 28.3% | 0 | 0.0% |
| **South** | | | | | | | | | | | | | | | | | | | | | |
| 1975 | 15,954 | 6,283 | 39.4% | 713 | 4.5% | 8,958 | 56.1% | 13,394 | 4,572 | 34.1% | 821 | 6.1% | 8,001 | 59.7% | 76,834 | 44,243 | 57.6% | 11,318 | 14.7% | 21,273 | 27.7% |
| 1977 | 19,630 | 7,114 | 36.2% | 709 | 3.6% | 11,807 | 60.1% | 15,875 | 4,475 | 28.2% | 815 | 5.1% | 10,585 | 66.7% | 86,489 | 45,998 | 53.2% | 12,071 | 14.0% | 28,420 | 32.9% |
| 1979 | 22,594 | 6,369 | 28.2% | 779 | 3.4% | 15,446 | 68.4% | 18,791 | 4,583 | 24.4% | 607 | 3.2% | 13,601 | 72.4% | 89,682 | 43,746 | 48.8% | 10,749 | 12.0% | 35,187 | 39.2% |
| 1981 | 26,843 | 6,470 | 24.1% | 932 | 3.5% | 19,441 | 72.4% | 21,155 | 3,157 | 14.9% | 978 | 4.6% | 17,020 | 80.5% | 98,843 | 41,971 | 42.5% | 12,361 | 12.5% | 44,511 | 45.0% |
| 1982 | 26,711 | 6,069 | 22.7% | 556 | 2.1% | 20,086 | 75.2% | 22,911 | 4,185 | 18.3% | 586 | 2.6% | 18,140 | 79.2% | 93,345 | 40,540 | 43.4% | 7,349 | 7.9% | 45,456 | 48.7% |
| 1984 | 29,949 | 7,322 | 24.4% | 585 | 2.0% | 22,042 | 73.6% | 24,100 | 4,335 | 18.0% | 831 | 3.4% | 18,934 | 78.6% | 108,404 | 46,865 | 43.2% | 12,615 | 11.6% | 48,924 | 45.1% |
| 1986 | 31,476 | 8,116 | 25.8% | 569 | 1.8% | 22,791 | 72.4% | 24,143 | 3,957 | 16.4% | 684 | 2.8% | 19,502 | 80.8% | 107,979 | 47,733 | 44.2% | 9,995 | 9.3% | 50,251 | 46.5% |
| **TOTAL** | | | | | | | | | | | | | | | | | | | | | |
| 1975 | 97,132 | 25,198 | 25.9% | 62,976 | 64.8% | 8,958 | 9.2% | 99,592 | 32,119 | 32.3% | 59,472 | 59.7% | 8,001 | 8.0% | 564,209 | 246,442 | 43.7% | 296,494 | 52.6% | 21,273 | 3.8% |
| 1977 | 96,110 | 25,987 | 27.0% | 58,316 | 60.7% | 11,807 | 12.3% | 111,119 | 33,560 | 30.2% | 66,974 | 60.3% | 10,585 | 9.5% | 591,838 | 254,579 | 43.0% | 308,839 | 52.2% | 28,420 | 4.8% |
| 1979 | 102,506 | 26,127 | 25.5% | 60,933 | 59.4% | 15,446 | 15.1% | 106,342 | 34,051 | 32.0% | 58,690 | 55.2% | 13,601 | 12.8% | 594,422 | 255,438 | 43.0% | 303,797 | 51.1% | 35,187 | 5.9% |
| 1981 | 111,511 | 27,434 | 24.6% | 64,636 | 58.0% | 19,441 | 17.4% | 118,555 | 32,278 | 27.2% | 69,257 | 58.4% | 17,020 | 14.4% | 647,432 | 265,320 | 41.0% | 337,601 | 52.1% | 44,511 | 6.9% |
| 1982 | 113,406 | 25,335 | 22.3% | 67,985 | 59.9% | 20,086 | 17.7% | 119,980 | 33,188 | 27.7% | 68,652 | 57.2% | 18,140 | 15.1% | 636,109 | 251,210 | 39.5% | 339,443 | 53.4% | 45,456 | 7.1% |
| 1984 | 120,186 | 30,795 | 25.6% | 67,349 | 56.0% | 22,042 | 18.3% | 118,547 | 35,688 | 30.1% | 63,925 | 53.9% | 18,934 | 16.0% | 660,712 | 288,001 | 43.6% | 323,787 | 49.0% | 48,924 | 7.4% |
| 1986 | 115,920 | 30,010 | 25.9% | 63,119 | 54.5% | 22,791 | 19.7% | 117,240 | 34,512 | 29.4% | 63,226 | 53.9% | 19,502 | 16.6% | 641,558 | 272,211 | 42.4% | 319,096 | 49.7% | 50,251 | 7.8% |